Naval War College Review

Volume 47
Number 1 *Winter*

Article 36

1994

Winter 1994 Full Issue

The U.S. Naval War College

NAVAL WAR COLLEGE REVIEW

WINTER 1994

The editorial offices of the *Naval War College Review* are located at the Naval War College, Newport RI (Address: Code 32, Naval War College, 686 Cushing Rd., Newport RI 02841-1207). Published quarterly, its distribution is limited generally to commands and activities of the U.S. Navy, Marine Corps, and Coast Guard; regular and reserve officers of the U.S. Navy, Marine Corps, and Coast Guard, and milirary officers of other U.S. services; foreign officers and civilians having a present or previous affiliation with the Naval War College; selected U.S. government officials and agencies; and selected U.S. and international libraries, research centers, publications, and educational institutions. Correspondence concerning *Review* matters should be directed to its editorial offices. (Telephone: 401-841-2236, DSN 948-2236, fax 401-841-3579. All other departments of the college may be reached by calling 401-841-3089, DSN 948-3089.)

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NAVAL WAR COLLEGE REVIEW

Volume XLVII, Number 1, Sequence 345 Winter 1994

Our cover: The "last critical moments" of a carrier landing, in a striking painting by William S. Phillips. For more information, see our notice on page 27.

The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law of the Department of the Navy. Funds for printing this publication have been approved by the Navy Publications and Printing Policy Committee.

"What does this new strategic vision mean in terms of maritime forces? In some major respects, the news is not good, but neither is it all bad. In fact, much of it is very good."

President's Notes

IT WAS LITTLE MORE THAN A YEAR AGO, in the Autumn 1992 edition of these Notes, that I offered a brief explanation of the National Military Strategy and the Joint Chiefs of Staff's concept of "the Base Force" considered essential to the execution of that strategy. The Navy–Marine Corps elements in that force could be stated, in an abbreviated fashion, as a fleet of about 450 ships (down from a recent peak of nearly 600) and a Marine Corps with about 159,000 active personnel, down from roughly 200,000.

On September 1, 1993, the Secretary of Defense announced the results of a "Bottom-Up Review" of the Department of Defense conducted over the last several months. The review was prompted by the "revolutionary nature of the changes in the international security environment." There certainly have been many of those since the Berlin Wall fell in 1989, extending all the way through the Gulf War and the humanitarian intervention in Somalia to the Israeli-PLO

Admiral Strasser holds a B.S. from the Naval Academy, two master's degrees from the Fletcher School, Tufts University, and from the same school a Ph.D. in political science. He graduated from the command and staff course at the Naval War College in 1972. He commanded the USS *O'Callahan* (FF 1051), Destroyer Squadron 35, Cruiser-Destroyer Group Three, and Battle Group Foxtrot. His seven years in Washington included two years in the office of the Chairman, Joint Chiefs of Staff.

accords recently signed in Washington. Assuredly the Bottom-Up Review of the new administration was not a superficial exercise based *solely* on budgetary considerations; rather, it was foremost a policy-driven exercise. While financial constraints certainly came into play, the review's stated purpose was to "define the strategy, force structure, modernization programs, industrial base and infrastructure needed to meet new dangers and seize new opportunities."

This revised strategic concept recognizes four principal dangers to the community of nations: the proliferating threats of nuclear weapons and other weapons of mass destruction emerging among terrorist states and others; major regional, ethnic, and religious conflicts; the possible failure of young democracies and the return to authoritarian regimes; and lastly, dangers to our own national security if we were not to maintain and build on the strength of our own economy. The Secretary has determined that our defense strategy should consist of four main considerations that will size and shape our forces: major regional conflicts (such as those which could be instigated by a remilitarized Iraq or by North Korea); the need for peacetime overseas presence; smaller-scale operations such as those involving peace enforcement and other lesser intervention scenarios; and finally, nuclear deterrence.

What does this new strategic vision mean in terms of maritime forces? In some major respects, the news is not good, but neither is it all bad. In fact, much of it is very good.

First, the bad news. In the largest sense, for the Navy it means a period of personnel turmoil as we downsize to a level of about 390,000 active-duty personnel; it also means the decommissioning of many fine ships that have many years of service life left. Most of the ship retirements have been announced previously. In shorthand, again, it translates into a force of 346 ships by 1999. Some Navy budget experts forecast that the inventory will actually be slightly lower than that as we recapitalize and modernize our weapon systems. In 1994 alone, the Navy will decommission nearly 100 ships; this number represents a fleet larger than all but two other navies in the world!

For the Marine Corps, the bottom line is somewhat brighter: instead of being reduced to an active end-strength of 159,000, the Defense Secretary will recommend to Congress that the Marine Corps be manned by an active force of 174,000 men and women.

Other than that, what could the good news possibly consist of? There is much in the Bottom-Up Review with which we can be pleased, not just for the Navy and Marine Corps, but for the nation and those around the world who look to the United States for leadership and who depend upon us for the maintenance of peace.

First, there is an explicit acknowledgement that all U.S. armed services must maintain a strong forward presence in order to be credible. In Europe, that

translates into a force of about 100,000, mostly Army and Air Force personnel. Because of the continuing threat of aggression from North Korea, U. S. force levels ashore in Northeast Asia have been frozen at close to 100,000—mostly soldiers, airmen and Marines. But for the Navy and Marine Corps, there is an even more important explicit acknowledgement: that deployments of greater than six months degrade morale and eventually readiness. That was taken into account when determining the recommended end-strength of the Corps and also when determining the number of carrier battle groups necessary for patrolling the potential hot spots of the world. The Secretary of Defense has recommended that a total of twelve aircraft carriers be maintained, one of which would serve primarily as a training/reserve carrier and as a platform for use by the one proposed composite Navy/Marine reserve air wing.

For the submarine force, a total of 45 to 55 nuclear attack submarines is recommended. Of great significance is the decision to build a third submarine of the *Seawolf* class and to procure the first of another "lower cost, but capable" class of submarine by 1999. This will protect the essential shipbuilding industrial base at Groton for submarines. Funding for another *Nimitz*-class carrier (CVN 76) will be requested in 1995, which will ensure at least the short-term viability of our nuclear carrier building yard at Newport News. The major program for our surface force will be steady procurement of three *Arleigh Burke*–class (DDG 51) Aegis destroyers in each year of the Future Years Defense Plan so as to stabilize our surface combatant level at 110 to 116 ships.

Several other decisions in the same Bottom-Up Review firmly link our readiness at sea with the ability to execute the new administration's strategic vision. They include: development of a theater ballistic missile defense (TBMD) capability on our Aegis cruisers and destroyers through a major improvement to the Standard Missile (Block IV A); a follow-on sea-based TBMD upper-tier system that would offer a very-long-range missile intercept potential; substantial increases in our strategic sealift capacity through the purchase of additional roll-on/roll-off ships; improvements to the Military Sealift Command's Ready Reserve Fleet; and afloat prepositioning of an Army brigade set of heavy armor so that it can be responsive to a major regional crisis in either Southwest Asia or Northeast Asia.

In my view, these programs, when taken together with other naval weapon systems improvements, add up to a rather resounding endorsement of the Navy-Marine Corps White Paper ". . . From the Sea." The Secretary of Defense and his advisors have acknowledged the need for maritime strength, especially Naval Expeditionary Forces, as a major war-fighting contributor—jointly with our sister services—in major regional crises and other contingencies around the globe. Most of them will likely occur in or near coastal areas and involve what we call "littoral warfare."

Here at the Naval War College, we have much already in place that serves to buttress our claim as a center of excellence in littoral warfare, but we are also reinvigorating our curriculum, research, and war gaming to ensure that we are leaders in thinking and writing about the new strategic environment and how all our services can combine to make the most useful contributions in our national interest.

There is little doubt that all of the services will experience some pain and anxiety as we continue the draw-down process. Recapitalization demands that many cuts occur more quickly than we would prefer. Some will perceive that a certain service has won in this process at the expense of the others. That's all part of the background noise and should stay there. What is important is that our armed forces are blessed with tremendously talented and dedicated personnel who will devote themselves to ensuring that our military, and particularly our Navy/Marine Corps team, remains the foremost fighting force in the world and is totally capable of protecting the vital interests of this nation.

JOSEPH C. STRASSER
Rear Admiral, U.S. Navy
President, Naval War College

Standing By in Future Issues of the . . .

NAVAL WAR COLLEGE REVIEW

"Military-to-Military Arrangements for the Prevention of U.S.-Russian Conflict," by
John H. McNeill

"Continuity and Change in U.S. Security Strategy," by
Major Tom Seal, USMC

"Regional Resilience: The Imperative for Maritime Security Cooperation in Southeast Asia," by
Cdr. Lee G. Cordner, AM, RAN

"Reconstitution, Surge, and Mobilization: Once and Future," by
Thomas Hone

"Providing Ballistic Missile Defense from the Sea," by
Robert M. Soofer

The New International Security Order
Changing Concepts

Inis L. Claude, Jr.

PERHAPS IT IS TRUE THAT THERE is nothing new under the sun. Certainly, the list of problems that the world now faces as it strives for order, security, stability, and peace is not an altogether new one. Along with elements of novelty, it includes modified versions of the perennials of international politics and resurgent problems come back from the past to haunt us; in some eight decades, we have gone from Sarajevo to Sarajevo!

If our problems are not predominantly new, neither are our ideas for dealing with them. Concepts are rarely products of pure cogitation; they generally derive from practice, from the trial and error of effort. We reflect upon our experience and thus develop concepts to explain and justify, to make sense of, what we have done. So we have old concepts that have been touted, criticized, tried, abandoned, revived, and revised. We also have some that appear quite new—but close examination usually reveals that they are largely products of the intellectual recycling process.

If the formulation and revision of concepts are initiated by our efforts to deal with problems, then the examination of our changed and changing concepts pertaining to international security can properly start with a look at the circumstances of the world today. What are the threats and challenges that most urgently require attention? What needs to be done if world order is to be achieved and maintained?

Champions of world order have long been preoccupied with the problem of international aggression, regarding as the crucial variety of international misbehavior the deliberate choice of war against another state in order to satisfy a policy objective. It may be that the danger of wars of aggression has diminished in the wake of the remarkable changes that have swept the world in recent years;

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Adapted from an address delivered on 31 March 1993 to participants of a conference at the Naval War College on "Options for U.S. Participation in United Nations–Sanctioned Military Operations."

certainly, the dismantlement of the Soviet Union has relieved the United States of anxiety about the possibility of being attacked by a formidable adversary. If, however, any evidence were needed that states will still sometimes resort to war to get what they want, that evidence has already been supplied by the regime of Saddam Hussein. The problem of deterring and defeating aggression remains firmly on the world's list.

States engaged in hostilities are not always easily and clearly identifiable, however, as aggressors or defenders against aggression. Events culminating in war are often of such complexity that it is extremely difficult to make a confident judgment—and utterly impossible to form an international consensus—as to where the labels of aggressor and victim should be attached. In many cases, we may reasonably conclude that those labels are simply inappropriate. States may find themselves at war when both of them are in some measure at fault but neither of them has really opted for war. They may have drifted or stumbled or slid into war, or been drawn into it, without a calculated decision by either of them to resort to arms in pursuit of its goal. For instance, it may be argued that World War I, in contrast to World War II, was a product of the circumstances in which the parties got themselves enmeshed, rather than of any state's deliberate choice. Such "predicament wars," as well as "policy wars," threaten world order. In the post–Cold War era, there are plenty of things for states to fight about—ambitions, fears, frustrations, suspicions, disputed territories, endangered resources, etc.—and we have to expect that armed conflicts between states will remain a feature of international relations.

It might be argued that twentieth-century seekers of world order have been unduly concerned about war, inasmuch as making war—though it is, of course, of critical importance—is not the only activity by which states damage each other and threaten the stability and order of the international system. We have concentrated too nearly exclusively on the problem of controlling resort to war, paying too little heed to the other varieties of international misbehavior in which states are wont to indulge. I think this excessive narrowness in the definition of the problem of world order is being remedied; our concept of order and security is in process of being enlarged to encompass the requirement of coping with non-military types of antisocial behavior. These include unfair trade practices, interference with the international transportation system in its various aspects, denial of access to essential natural resources, and degradation of the global environment. Decent performance in international relations is coming to be recognized as involving a great deal more than merely refraining from aggression; an orderly and secure international system requires more than mere peace, vital though that is. Saddam Hussein as international arsonist as well as international aggressor illustrates the broadening conception of world order.

Moreover, it is probably more than ever before true, and is certainly more than ever before recognized, that what goes on *inside* states is relevant to the task of managing international relations. Indeed, it appears that most observers today are agreed that for the foreseeable future, the international order will be threatened less by aggression across state boundaries than by strife within them.

We can identify at least three types of domestic situation that contribute notably to the problem of international order and security. The first of these is the familiar category of civil, or internal, war. In some instances these are secessionist struggles, in which one side aims at a result directly affecting the international system by altering the boundaries of one or more states or by creating an additional member of the state system. More frequently, civil wars concern the survival or replacement of the state's existing government. For all the vaunted progress toward the universal adoption of democracy, it is a fact that in many, perhaps most, of the world's political units the questions of who shall rule and for how long are not reliably answered by orderly constitutional processes. The abundance and bitterness and destructiveness of civil wars constitute a major problem for world order.

A second variety of internal problem may be defined as sheer chaotic anarchy—not a contest between a government and its challengers but the absence of government and the dissolution of a society into something uncomfortably reminiscent of Hobbes's state of nature, the war of all against all. This is the sort of thing that we have encountered in Somalia, and we have reason to fear that it may be repeated elsewhere. The world is perhaps beginning to reap the harvest sown by premature and ill-prepared decolonization. New states that appeared non-viable but unaccountably survived seem now, in a disconcerting number of cases, on the verge of collapse, making it manifest that the failure of the concept of trusteeship to catch on and to work effectively is one of the tragedies of our century. This phenomenon is surely a significant aspect of the problem of international security and order.

The third type of domestic situation to which I should like to direct attention might be described as a situation in which there *ought* to be, but is not, a civil war—misgovernment and repression so severe that rebellion might well be justified but is virtually impossible. At the risk of beating up on Saddam Hussein too regularly, we might say that that gentleman threatens world order not only as aggressor and as arsonist but also as tyrant. A tyrant who makes himself eligible for rebellion may stimulate—and justify—intervention from outside, thereby having a direct impact upon international relations. The problem of what to do about the egregious domestic misbehavior of governments has a prominent place on today's international agenda.

One could expand indefinitely the list of problems confronting the world, but I think we have in broad terms identified the major components of the

problem of international order and security. We have noted that the dimensions of that problem have changed and are changing. What remains for us now is to examine the world's changed and changing stock of ideas for coping with that problem.

The centerpiece of twentieth-century thought about world order has been the doctrine, often and with some justification characterized as the Wilsonian doctrine, of *collective security*. This label has been applied with considerable abandon to any number of recipes for the improvement of international relations; indeed, I should say that it has inspired the occasionally deliberate misappropriation of ideological funds. Collective security in its original meaning, however,

"Woodrow Wilson's aspiration for a system that would guarantee collective response to every act of aggression has given way to an understanding that some acts of aggression may stimulate collective response [—the] concept of selective collective reaction to aggression."

referred to a specific method for promoting order: an arrangement whereby an organized community of states would deter aggression by a credible commitment to squelch it, or, if that should fail, would defeat aggression by predictable collective resistance, so that every potential aggressor would be intimidated and every potential victim of aggression would be reassured. The security of all states would be guaranteed by the collective agency. That is the attractive promise of the collective security scheme. But there is a rub. The system obligates all states to contribute as needed to the collective defeat of determined aggressors—that is, to accept the risk and pay the cost of choosing to enter what might become full-fledged wars, a choice that might violate their own calculations of national interests, their own sentiments and preferences, and quite possibly their own popular mandates. Collective security offers what may be a very expensive lunch!

The idea of collective security has had a curious history, in that both students and practitioners of international relations have waxed simultaneously euphoric about its promised benefits and apoplectic about its threatened costs; we have been unable either to accept it or to acknowledge our abandonment of it. We reject and repudiate it in practice but persist in coddling it in theory. A major episode in our love-hate relationship with collective security was occasioned by Iraq's conquest of Kuwait and apparent threat to Saudi Arabia. Acting for the United States, President Bush secured the authorization of the UN Security Council, as well as the acquiescence of virtually all states and the assistance of some of them, and launched a coalition effort that undid the aggressive gains of Saddam Hussein. This was approximately what might have occurred if a collective security system had been in existence (except that the existence of

such a system, ideally, would have deterred Iraq in the first place), and President Bush chose to present it as the beginning of a United Nations collective security system that would henceforth operate to prevent or punish all resorts to aggression and thereby safeguard the security of all states. Although various others joined in this outburst of hyperbole, there is to my knowledge absolutely no evidence that the United States or any other member of the multistate system is seriously willing to contemplate the acceptance of the commitments, the bearing of the burdens, and the running of the risks that would be entailed by the establishment and operation of a general system of collective security. As most statesmen well know, idealism is one thing, but imprudence is quite something else.

What has happened is that the concept of collective security has been substantially trimmed back. Woodrow Wilson's aspiration for a system that would guarantee collective response to every act of aggression has given way to an understanding that *some* acts of aggression *may* stimulate collective response. We have adopted, without articulating it, the concept of *selective* collective reaction to aggression.

This "sometimes, we may" approach to repression of aggression does not have the ideological attractiveness of collective security's "always, we will" approach, and its effectiveness as deterrent and reassurance falls far short. The great merit of selectivity, however, lies in its conformity with the reality that acts of aggression vary widely in important respects: (1) in the degree to which they appear to threaten the stability of the global system (not every aggressor is a Nazi Germany); (2) in the nature of the consequences that are likely to flow from their being permitted to succeed (the world rightly was less alarmed by what a triumphant George Bush would do in Panama than by what a triumphant Saddam Hussein would do in Kuwait); (3) in their capacity to incite an international consensus as to their moral and legal reprehensibility; and (4) in the degree of difficulty that their suppression would appear to entail. In some cases of aggression, but not in all, the United States and other leading powers may agree that it is necessary and possible, and they may convince the UN Security Council that it is proper, to undertake combined military action. The selection of cases—the decision to act in this instance, but not in that one—will not be easy, or free of controversy and recrimination, or necessarily judicious, but collective resistance to international aggression is and will be a discretionary phenomenon. The business of statesmanship is discrimination, and we can only hope that the leaders who make the choices about when and where to mobilize collective response to aggression will act with wisdom, courage, and prudence.

If collective security has been pruned by restricting enforcement action to selected instances of international aggression, it has put on new growth in that collective coercion has been increasingly considered, and sometimes applied, in

cases of domestic or international misbehavior not classifiable as aggression. This trend has been evident for some years in the use of the United Nations to bring pressure to bear, including occasionally formal diplomatic and economic sanctions, upon regimes whose policies have been regarded as incompatible with UN positions on such matters as decolonization, racism, and human rights. The most conspicuous example of the turning of collective enforcement against non-aggressive malfeasance is provided by what the United Nations has attempted in Iraq since Desert Storm—inspection and in some cases dismantling of military facilities, and imposition of restraints designed to protect Kurds and other mistreated minorities. This collective intervention into Iraqi affairs is occasioned by Iraq's status as a convicted and defeated aggressor not yet restored to good international standing. It appears, however, to herald the introduction of a new concept, growing out of the collective security doctrine: the collective suppression of governmental behavior, in the domestic or the international arena, deemed unacceptable by the UN.

The next concept whose alteration demands our attention is that of *peace-keeping*. This notion, not mentioned in the United Nations Charter, grew out of pragmatic responses to the 1956 Suez crisis and the 1960 eruption in the newly independent Congo, now known as Zaire. In its original version, peace-keeping entailed the insertion, with the consent of all relevant parties, of a UN force into a troubled zone in order to assist the parties in maintaining a precarious peace—that is, to help them carry out their resolve to avoid beginning, or resuming, war with each other. Note that peace-keeping presumed the absence of aggressive intent: both sides wanted peace but feared the inadvertent outbreak of military conflict and were sensible enough to acknowledge their need for third-party assistance in preventing that calamity. The UN force, composed of contingents voluntarily supplied by states acceptable to the parties as sufficiently evenhanded to be trustworthy, had a non-fighting mission, a pacifying and neutralizing function. From the point of view of the United Nations, the proximate aim of preventing a local war was primarily a means to the larger objective of encouraging the superpowers to refrain from intervening competitively in unstable situations and thereby risking a confrontation that might precipitate World War III. A neutral UN was attempting to help the superpowers contain their Cold War. Peace-keeping forces, fielded and operated more or less in accordance with the model just described, have been a persistent feature of the international landscape for nearly forty years.

The termination of the Cold War and the demise of the USSR have eliminated the ultimate aim of providing safeguards against an uncontrollable confrontation between the superpowers, but the global system retains a significant stake in preventing the breakdown of peace in the world's various neighborhoods. Although a major goal of peace-keeping at the start was to exclude the great

powers from involvement, those missions have always depended heavily on those powers, especially on the United States, for financial and logistical support. Today the rationale for their exclusion has virtually disappeared, and there is a growing expectation of their full participation. Peace-keeping in its original form is a continuing and growing function of the United Nations.

"There is nothing to be gained, and much to be lost, by stretching the concept of peace-keeping to cover . . . full-scale military operations to frustrate governments or other armed entities that are determined to fight for their objectives."

But peace-keeping has also changed, becoming steadily more diverse in its implications. Almost from the beginning, its application was extended beyond straightforward international situations to situations of mixed domestic and international character, and now its primary zone of applicability is the incipient or aborted civil war. The first instance of involvement in a mixed situation, one characterized primarily by internal strife, was the case of the Congo in 1960. In this case, the UN peace-keeping force was supplemented by a civilian component that undertook numerous and vital administrative tasks to help maintain a society whose governing apparatus was seriously inadequate. Moreover, as the civil-war aspects of this situation became increasingly predominant, UN forces were inexorably drawn into a quasi-belligerent role, and the awkwardness of attempting to be peace-keepers in the absence of a peace to be kept became painfully evident. The confusion, difficulty, and political recrimination stemming from this involvement in belligerency threatened to abort the development of the United Nations' peace-keeping career, but the notion of peace-keeping somehow managed to survive.

It is now clear that the Congo case offered a foretaste of things to come: the expansion of peace-keeping functions and the blurring of the line between the concepts of peace-keeping and of peace-enforcement.

Let us examine the additional functions that have recently been undertaken by, or contemplated for, military forces supplied by member states for operations under the authority of the United Nations, operations usually described as falling within the increasingly capacious and indistinct rubric of peace-keeping missions. The first of these, illustrated by the cases of Somalia and Bosnia, is the protection of humanitarian relief operations, making possible the provision of food and medical assistance to civilian victims of the savagery of internal war and even anarchic disorder. It may be difficult to justify calling this useful activity peace-keeping, but it does entail the injection of foreign troops to serve essentially as guards rather than as combatants, with the ostensible intention not

of influencing the outcome of the armed conflict but only of minimizing the suffering of civilians. It is, thus, entirely compatible with the notion of peace-keeping.

Another recent expansion of the concept of peace-keeping is the notion of inserting troops not to keep a peace but to promote the creation of a peace—that is, to press for a cease-fire and diplomatic settlement. The second phase of the UN-sponsored intrusion into Somalia, for instance, entails the use of troops to bring pressure upon the parties to stop fighting, accept disarmament, and begin negotiating; collective intervention is increasingly likely to be contemplated for that purpose in other conflicts. Peace-keeping was originally conceived as a function distinct from pacific settlement, albeit intended to maintain a situation in which such resolution of issues might be pursued. Old-fashioned peace-keeping has, however, tended to run on at great length (consider the Cyprus operation, going since 1964!) without being terminated by a definitive settlement; as a result, some observers have suspected that peace-keeping discourages, rather than encourages, pacific settlement. This new variety of peace-keeping is in effect merged with the pacific settlement, or peace-*making*, function. Its agents seek to promote the making of a peace, so that they will have a peace to keep.

Next, we find peace-keeping being invoked as an essential part of a settlement package: the United Nations sponsors, and is deeply involved in, negotiations to create a settlement, with the understanding that a peace-keeping force will undertake a variety of duties, possibly including the monitoring and even the administration of elections, having to do with the implementation of the settlement. The UN's involvement in Cambodia is an instance of this version of peace-keeping, which in some cases may extend even to the UN mission's serving as a virtual interim government. In some respects, this function of presiding over the execution of the terms of a settlement may be thought to resemble the idea of a United Nations trusteeship more than the original idea of UN peace-keeping.

The two final developments on my list depart so far, it may be argued, from the original idea of peace-keeping that they represent deviations from, rather than derivatives of, that concept. The first of these is the provision of military personnel to enforce an agreed settlement, offering in effect an international guarantee of the terms of settlement. For instance, at this writing there is a possibility, however unlikely, that a settlement may be reached by the parties to the conflict in Bosnia, with the expectation that its terms would be enforced by Nato, acting for and under the authority of the United Nations. The United States has declared its readiness to take part in such an enterprise—if and when the parties to the conflict reach a settlement among themselves. This project seems to conform with the literal meaning of peace-keeping: if the parties make a peace, we will help to keep it. In important respects, however, it leaves

peace-keeping behind in favor of something more closely resembling collective action against aggression or other misbehavior. What is involved in guaranteeing adherence to the terms of a settlement is not assisting all parties in maintaining a precarious peace but offering armed resistance to a violation of agreed terms by any party—that is, fighting to defeat illegal action that may amount to aggression.

The second of these final developments on my list represents an even more definitive shift from peace-keeping to collective waging of war. I refer to the idea of UN-sponsored military action to *impose* a settlement deemed appropriate by the Security Council but rejected by one or more of the parties. In the Bosnian conflict, there have been recurrent suggestions of resort to such action, typically characterized by the conviction that "the Serbs," a term that presumably includes both the Serbian regime in Belgrade and the Serbian minority in Bosnia, have committed aggression and should therefore be treated as Iraq was treated in regard to Kuwait—that is, be told to get out or face the prospect of being forced out. That approach to the situation in what was formerly Yugoslavia is conceivably the necessary and proper one, but it clearly falls under the heading of selective collective response to aggression, our diminished version of collective security, rather than under the peace-keeping rubric. It contemplates a combat role for the UN force, rather than non-fighting functions, and the coercion of one side to the benefit of the other rather than evenhanded treatment of the parties. That kind of campaign would require a vastly different apparatus than a peace-keeping force directed by the Secretary-General; the appropriate analogy is not the United Nations Emergency Force or UNFICYP or ONUC,* but the coalition that fought under UN authority in Korea or in Kuwait. When one considers the waging of war on behalf of the United Nations, one has clearly gone well beyond the notion of peace-keeping.

Our methods of dealing with the problems of world order require constant adaptation to changing circumstances. It is nevertheless essential to retain a clear distinction between those approaches that involve evenhanded treatment of the parties engaged in conflict and those that involve tilting to one side or the other. There is nothing to be gained, and much to be lost, by stretching the concept of peace-keeping to cover missions that must engage in full-scale military operations to frustrate governments or other armed entities that are determined to fight for their objectives.

* United Nations Force in Cyprus, and the Organisation des Nations Unies au Congo (known in English as the United Nations Operation in the Congo).

Ψ

Sea Power
The Great Enabler

Colin S. Gray

WHAT IS THE STRATEGIC RELATIONSHIP between sea power and land power, with air power adjunct to, and very occasionally all but independent of, both? Two propositions are considered here. First, it is suggested that command of the sea yields a more absolute and extensive superiority in that environment than does command on land in its environment. Second, this article considers the idea that command at sea yields possibilities for influence on land superior to the influence at sea that can flow from command on land. "Command" is employed to mean a working control and not an absolute, literally exclusive—let alone ubiquitous—control. An effectively absolute control can be achieved, however. For example, in 1810 the Royal Navy's close blockade of French, and major French-allied, ports was so rigorous that not a single French naval squadron put to sea.[1] For a further instance, U.S. and other coalition naval forces enjoyed so absolute a control of the waters of the Persian Gulf in 1991 that the Mahanian sense of the term "command" was not inappropriate.

Command of the sea, for all its suggestion of an improbable literal exclusivity, expresses an enduring truth about the conditions for success in maritime endeavor in wartime. Since the time of Oliver Cromwell's statecraft in the 1640s and 1650s, sea power and command of the sea have been appreciated in the terms explained and popularized (very much later) by Alfred Thayer Mahan. Maritime command at sea may be in dispute, will rarely deny the enemy use of the sea entirely, and might be enjoyed only by night or by day (the situation in the "slot" in the Southern Solomons off Guadalcanal from August to November 1942). But by definition, command cannot be shared. Command is exclusive in one place and at one time, and, because "the sea is one," with exceptions only in coastal or closed seas, it has the potential to be very extensive in domain. The ubiquity of command at sea was more true in the days of totally Eurocentric international struggles than has been the case since the 1920s. U.S. and Japanese

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naval power could not be contained by the same accident of physical geography that placed Britain in a barrier position *vis à vis* aspiring naval powers in continental Europe.

Prior to the early 1900s, Britain's command of Europe's narrow seas translated into control of global maritime communications. Indeed, after 1807 Britain explicitly sought to achieve a monopoly of Europe's seaborne commerce as a means both to survive in the face of Napoleon's continental blockade and to apply pressure upon his fragile continental empire. The complex European naval competition of the early 1900s, however, required Britain to concentrate her battle fleet in home waters at the very time when Japanese and U.S. naval power was on the rise. Britain no longer enjoyed global maritime command. The 5:5:3 Washington Treaty (1922) ratio in capital ship tonnage between Britain, the United States, and Japan made strategic sense for the Royal Navy only if there was no pressing need for the concentration of naval force in European waters. But by the mid-1930s, it was apparent that the security of the British Empire in Asia rested upon nothing more tangible than hopes that the Japanese Empire would confine its predatory activities to the East Asian mainland, that the United States would conveniently defend British interests in the region in addition to her own, or that dangers in Europe could somehow be avoided.

In the wars with France, the key to British maritime command had been a flexible concentration of naval force, with the principal center of gravity off Ushant in the Western Approaches to the Channel (weather and the fleet logistic train permitting) and complementary assembly areas off Cape Finisterre, Cape St. Vincent, or at Gibraltar. With variations, this central idea for fleet deployment was applicable as late as the Second World War. In that war the Royal Navy's Home Fleet (as in 1914–18) substituted Scapa Flow for Plymouth and Torbay as the principal base; the Orkneys provided flexibility in the provision of more or less distant cover by capital ships against the German surface raiders that menaced the North Atlantic and later northern Russian convoy routes. The Home Fleet's Force H at Gibraltar functioned in a manner reminiscent of the operational flexibility that basing a fleet on the Bosphorus had afforded the Byzantine and Ottoman Empires: it made a two-sea fleet from a single concentration of naval power. In 1941–42 Force H operated both in distant support of operations in the North Atlantic and on behalf of the convoys to and from the Middle and Far East via the Cape route, as well as in the Mediterranean, where it provided cover for the Malta convoys against Italy's fleet-in-being.

The strategic geography of the Cold War Soviet Union denied her foes even the possibility of adopting a single-theater focus in their maritime plans and deployments. The Trafalgar of a Soviet-American World War III would probably have been waged in the Norwegian Sea, but the largest concentration of Soviet naval force was in the Far East. Given adequate notice, maritime assets

could have been transferred from region to region. The degree of global maritime command that a Western alliance against the Soviet Union would have required, while it would have been facilitated by substantial eradication of the Soviet naval strength based on the Kola peninsula, could not have been secure unless the Soviet Pacific Fleet also were destroyed or otherwise reliably neutralized.

The geographical and political barriers that subdivide the land necessarily limit sharply the reach even of superior land power. Mountains, wide rivers, deserts, and inconveniently located neutral states can all hinder the momentum and grasp of armies. Even when such internal continental hurdles are not a grave problem, all-conquering armies can be frustrated by the water's edge. Even with the benefit of a powerful air-adjunct, superior land power, if not assisted by superior sea power, is essentially only of insular benefit (large though the "island" in question may be). First-rate land power, though supported ably by no less first-rate air power, is simply denied by geography the possibility of functioning as the basis for global strategy. However, this is far from the whole story, as the remainder of the article will show.

Theory and Practice

Although the military reach of superior sea (-air) power is greater than is that of land (-air) power, that judgment must not encourage any discounting of the strategically interdependent relationship that characterizes land, sea, air, and now space operations. It is true that maritime command effectively places the military frontier upon the enemy's coast. In principle this point needs to be modified to accommodate the threat posed by land and sea-based air power. But in practice since 1939, maritime command has been understood to subsume the necessity for achieving air superiority over the fleet. The sea cannot be commanded if control is lacking in the air. The British experience of defeat in Norway in April 1940, in Crete in May 1941, and most dramatically off Kuantan in Malaya in December 1941 with the sinking of the *Repulse* and the *Prince of Wales*, provided early signals of an interdependence of air and sea that was to be the cornerstone of military operations in the conflicts in Europe and the Pacific. The specific historical strengths of particular combatants are what is most important, not some abstract relationship posited between air power and sea power (and now space power). Following Desert Storm, a strategic theorist could write plausibly, if incompletely, that "air power had finally done it."[2] "Done it" in this context implies air power as the dominant agent for success in war. The analysis in this article recognizes that there will be specific historical situations wherein land power and sea power will be largely adjunct to an air power that is itself about far more than the protection of the fleet or the acceleration of military progress on the ground.

In the Pacific in late 1943 and 1944, the U.S. Navy deployed so overwhelming a fast-carrier strength that the nominal measures of advantage between land and sea-based air power were simply overturned by the great and growing disproportion, against Japan, in material resources. Military "rules of thumb," like the favorable 3:1 ratio advisable for an attacker on land, are falsified so often that they should be accorded little respect. Brute force can never be despised, but success in war rarely reduces neatly and arithmetically to sheer quantities of military input.

The sea is a great highway or a barrier, depending upon military relations in and over that environment. There has always been a strategic asymmetry favoring superior and insular sea power over superior and continental land power.[3] The dominant sea power necessarily enjoys access to the territorial basis of the continental country's strength, while the dominant land power must either cross an uncommanded sea in order to enjoy reciprocal access, or somehow itself wrest maritime command in preparation for invasion.

Since command at sea and on land is never absolute (well, hardly ever, with acknowledgement to Gilbert and Sullivan), the sea power and the land power typically can raid each other's realm. Historians and strategic theorists impressed by the access to hostile territory enabled by maritime command need to recognize that raiding at sea by a land power is likely to be more significant strategically than is amphibious raiding by a sea power. Time after time in modern history, *guerre de course* has been the preferred strategy for a second-class naval power obliged to disperse its fighting strength at sea.

Strategic Utility

The traditional strategic advantages conferred by sea mobility have not been thoroughly negated by the technological and economic changes of this century. In their security application those changes include: new economies in rapid generation of forces for peripheral defense on land permitted by the railroad and the internal combustion engine; a vastly increased scale of military power that can be maintained by modern national economies; and the revolution in wide-area surveillance and in the reach of land-based firepower effected by aircraft (and spacecraft). Command at sea, however, still uniquely enables a country or coalition to implement a global strategy. Herbert Rosinski expressed a lasting truth in 1944 when he wrote that "in global war, merchant shipping is the ultimate key to strategy."[4]

There is no question about the feasibility of penetration either of the sea environment by the country superior on land, or of the land by the country in a commanding position at sea. The important question, rather, is what can be achieved by such penetration, by the landward reach of sea power and the

seaward reach of land power. There can be no generally valid answer, because specific historical circumstances must determine what reciprocal land-sea access permits. Discussion of the relative value of sea and land power for securing access to the hostile environment is a debate about the ease with which maritime power can generate strength on land, or vice versa. This, truly, is the crux of the matter. Failure to understand that war cannot be waged to a successful conclusion by action in one environment alone is a persisting weakness shown up in the history of statecraft.

Napoleon's continental imperium was unable to effect a sufficient concentration of naval force of adequate fighting quality to cover an invasion of Britain or to wage a *guerre de course* sufficiently damaging to remove British ability to organize and finance sea-land coalitions. Imperial Germany was so burdened with military commitments on land that she was unable to build her "risk fleet" into a force that could challenge Great Britain's Grand Fleet for command via a general fleet action.[5] Germany's conduct of an unrestricted *guerre de course* in 1915, 1916, and again in 1917–18 lacked the numbers, the operational intelligence, and the technical-tactical proficiency to drive allied-serving merchant shipping from the high seas, formidable though that threat was in 1917. Nazi Germany, like Imperial Germany before it, entered into war with a naval doctrine ill suited to the scale of its naval assets.[6] However, Halford Mackinder's grim analysis of what a continental scale of political and military organization could imply for the seaward reach of the land might have applied in the 1940s.[7] Hitler would have had to have been willing to delay his timetable of military aggression so as to permit the development of a large and balanced navy, the Luftwaffe would have needed to make sensible technical choices about aircraft, and war against the Soviet Union and the United States would have had to have been postponed for many years.

The wars of the French Revolution and Empire and the world wars of the twentieth century demonstrate clearly the strategic and operational utility of sea power. But maritime command is more a facilitator than a concluding executor; vital though sea power has been, alone it can rarely serve to bring a conflict to a satisfactory conclusion. One could argue that British sea power eventually wrought the destruction of the continental imperia of Napoleon, Kaiser Wilhelm II, and Adolf Hitler, but such an expansive claim would be only a partial truth. It would be more true to claim that superior sea power created the strategic conditions wherein the continental enemy would be likely to be defeated. British and later American sea power were literally vital for the defeat of Hitler's Germany. But that sea power and the land and air power which it both thrust ashore and (including the Soviet case) helped equip and feed were expressions of a fundamental economic strength for the conduct of war that dwarfed the defense economies of the Axis powers.

Sea Power and Land Power: Cooperation and Antagonism

That sea power and land power are complementary is as obvious as that political rivalry between the leading sea power and the principal land power is seemingly perennial. In the essays published as *The Problem of Asia*, his most extensive commentary on the strategic relationship between the sea and the land, Mahan wrote that "the struggle [for the future of Asia] as arrayed will be between land power and sea power. The recognition that these two are the primary contestants does not ignore the fact that neither is a pure factor, but that each side will need and will avail itself, in degree, of the services of the other element; that is, the land power will try to reach the sea and to utilize it for its own ends, while the sea power must obtain support on land, through the motives it can bring to bear upon the inhabitants."[8]

The leading sea power and the principal land power have long sought both an effective monopoly of power in the environment most important to it, as well as some distractive power in the environment most natural to the other. The leading sea power is obliged to treat the greatest land power or coalition of land powers as a potentially deadly threat. The creation of what would amount to a single security community in continental Europe threatens the insular power with an enemy unfavorably disproportionate in resources. That continental empire could apply those resources to the creation of power at sea. In addition, great naval strength based on Eurasia would be suitably configured geostrategically for the global exercise of sea power. As Wolfgang Wegener, among other frustrated German navalists, came to recognize, sea power was a function of strategic geography, or position, as well as possession of a fleet.[9]

Following the theoretical path laid out by Mahan, Mackinder, and Nicholas Spykman,[10] not to mention four centuries of British, and later American, statecraft, George Liska has suggested persuasively that "The specific configuration of the Euro-Asian spectrum of types and sizes of territorial powers has given particular shape to a recurring pattern of rivalry of which the U.S.-Soviet conflict is but the latest manifestation. Each pitted insular against continental powers and each outcome contained the seeds of new conflict."[11]

Liska pointed to an ever-Eastward shift in the location of the "rear-continental" state, whose mission in (perhaps serendipitous) support of the sea power is both to provide distraction on land and, occasionally, the weight of land power necessary for victory against an aspiring land-power hegemon. In Anglo-American perspective, the principal rear-continental distractor-ally has been, successively, Burgundy (against France), Austria (against France), Prussia (against France), Russia (against Germany), and, in the 1970s and 1980s, China (against Russia). In the future, the distractor-ally may be Russia (against Europe) or

China (against a Greater Europe that includes Russia). The possibilities are not in short supply.

The threats posed by the leading sea power to the leading land power have typically been nowhere nearly as severe as vice versa. By its maritime mastery, Britain (and later the United States) threatened the financial and economic feasibility of schemes for continental-based imperium. Maritime blockade for financial effect was practicable and frequently effective from the late sixteenth century until Napoleon demonstrated in the early 1800s how to make war on land pay for itself. The continental powers of preindustrial Europe, however, could not be menaced at the core of their security by British sea power. This was not crippling, given that British policy in the eighteenth century did not seek the definitive ruin of continental foes. England's centuries-long bid for continental empire died with the close of the Hundred Years' War with France (1337–1457). Britain's great-power status in the classical age of sail rested initially upon the financial strength that accrued from overseas commerce and advanced institutions of public finance, and later upon her long lead in domestic manufacturing excellence and scientific agriculture. At the peak, or perhaps peaks, of her international standing—which is to say in the late 1700s and the 1810s—Britain aspired to be the decisive arbiter of European quarrels, the critical weight in the balance of power. Britain did not herself seek to be both dominant sea power and major land power; British resources in manpower would not allow preeminence at sea to be complemented by land forces on the continental scale triggered by the new nationalism of the era of the French Revolution. Moreover, British political culture was not tolerant of such an ambition, and the ruling class in the Britain of the Napoleonic Wars did not trust the masses sufficiently to be willing to risk the political consequences of a "nation in arms."

The present century has witnessed a good measure of that growth in the relative power of large continental states forecast by J.R. Seeley and Halford Mackinder.[12] From being the more or less agile "balancer" of the balance-of-power system, the leading Western sea power—Britain early in this century, the United States thereafter—has been compelled to become committed fixedly to one side of the balance as a permanent, indeed even principal, player.

A navy or an army can sustain the reality behind a tradition of excellence over several generations, but long periods of peace typically see the demise of expertise in land-sea (air and space) combined-arms planning—both in the small, at the level of conjunct amphibious raiding operations, and in the large, at the level of operational art and strategy. The problem can stem from far more than just the effect of a long peace. More to the point can be the harmful influence of past victory. As Arthur Marder notes, "armies and navies rarely learn from success."[13] The long-run reactions to the defeat of policy and grand strategy in Vietnam contributed massively to the operational, and hence strategic, effectiveness of

the U.S. armed forces in the 1990s. Every war is different in its details; but war, *qua* war, is an activity apart which has a unity across time, technology, and opponents.

An Enabling Agent

Because of strategic geography, the U.S. Army can engage in Eurasian continental campaigns only in the logistically expensive and inconvenient form of expeditionary warfare *overseas* (more or less eased by the prior presence of some, now rapidly diminishing, garrison forces and prepositioned equipment and supplies). The contribution that offensive action by naval power could make to a very large ground war can be difficult for the soldier to grasp. As a supremely strategic instrument, sea power provides benefit that may seem unduly remote to soldiers in immediate need of eminently tactical assistance. Action at sea, from Salamis, to Syracuse, to the Solomons, to the blockade of the Axis maritime supply route between Tunis and Sicily, can have immediate consequences for land warfare in so isolating enemy forces as to compel them to withdraw (if they are able), or even to cease resistance. But more often, naval action far out of sight of friendly land forces provides only indirect, *enabling* benefits to soldiers. Enemy initiatives by sea on a large scale are thereby precluded; friendly expeditions by sea become feasible; and enemy land and air deployments are dispersed to cover threats from the sea. But the final decision generally has to be enforced by the soldier on the ground.

A "law of the instrument" applies in warfare as in other human activities. A country whose long suit in defense is either land or sea power (with suitable air complements) is likely to seek such success as it can with that preferred instrument, even to the detriment of its overall performance in war. With the notable partial exception of her performance in the War of Spanish Succession (1701–1713), Britain traditionally misused her army abominably. (That exception was attributable in good part to the genius and authority of John Churchill, later Duke of Marlborough, who doubled as commander in the field as well as de facto foreign minister.) Similarly, in her second hundred-year struggle with Britain, France repeatedly misused her often formidable naval power.

Statesmen frustrated in a search for political solutions to pressing problems can be unduly credulous over the prospective efficacy of military solutions. Also, statesmen whose military instrument of excellence is either maritime, continental, or aerial have been known to exaggerate the power of decision of that particular instrument. At the level of grand strategy, the pervasiveness of a continental or maritime cast in national strategic culture can promote serious misassessments of the quality of menace that the one kind of power ultimately poses to the other. The misassessment can take the form, for example, of

exaggeration of the power of decision in war of national or coalition land power over hostile land power; witness German optimism in 1914 and 1941. Also, the danger posed by unfinished military business on land together with an undefeated enemy across the sea tends to be underappreciated. Parallel misassessment can bedevil a dominant sea power. The fact that victory at sea is a necessary, but not sufficient, condition for victory in war as a whole, can evade notice.

The pattern of rivalry in modern times between sea power and land power to which Mahan, Mackinder, and Liska have referred has been a pattern of antagonism linking the leading sea power and the leading land power. Understood more broadly, however, the natural relationship between sea and land power is more one of cooperation than of antagonism. Sea-power and land-power rivals need to be effective in the environment in which the principal rival is, or has been, supreme. In her struggles with Spain, France, and Germany, Britain and her contemporary rival sought in their distinctive ways to evade the necessity of facing the principal fighting strength of the enemy on its preferred terms, while still waging war to military advantage.

In modern times there has been a clearly discernible pattern of rivalry between the leading land power and the leading sea power—and this, repeatedly, in the face of the political and strategic reality that continental and maritime (and now air and space) strengths have an essentially complementary relationship. The series of sea power–land power rivalries has produced a pattern of maritime success. Command at sea, or at least a sufficiency of control, has enabled maritime powers to wage war as a whole more effectively than has command on land for continental states. Time and again, with only the details altering, superior strength at sea allowed first Britain, then the United States, so to structure a conflict, by way of continental allies acquired and subsidized and hostilities protracted, that systemic cumulative advantages were realized and exploited. As a general rule, the leading sea power understood clearly enough that maritime excellence worked as an enabling, not a war-concluding, agent.

Notes

1. See William James, *The Naval History of Great Britain* (London: Richard Bentley, 1847; first pub. 1822), v. 5, p. 215. Even this close a blockade did not preclude the sailing of individual ships.

2. Edward N. Luttwak, "Air Power in U.S. Military Strategy," Richard H. Shultz, Jr., and Robert L. Pfaltzgraff, Jr., eds., *The Future of Air Power in the Aftermath of the Gulf War* (Maxwell Air Force Base, Ala.: Air Univ. Press, July 1992), p. 19. Also see Richard P. Hallion, *Storm over Iraq: Air Power in the Gulf War* (Washington, D.C.: Smithsonian Institution Press, 1992); and John F. Jones, "Giulio Douhet Vindicated: Desert Storm 1991," *Naval War College Review*, Autumn 1992, pp. 97–101.

3. Insularity may be a literal geographical reality, as with Britain after her Scottish "back-door" problem ended in the 1740s, or with Venice. Also, insularity may be a strategic rather than a literal truth, as with the United States in this century. Finally, insularity may be contrived by engineering artifice, as was true for Athens and for the Dutch Republic.

4. Herbert Rosinski, *The Development of Naval Thought* (Newport, R.I.: Naval War College Press, 1977), p. 45.

5. See Holger H. Herwig, *"Luxury Fleet": The Imperial German Navy, 1888–1918* (London: George Allen and Unwin, 1980); Ivo Nocolai Lambi, *The Navy and German Power Politics, 1862–1914* (Boston: Allen and Unwin, 1984).

6. In 1914 the German Navy shared with Britain's Royal Navy doctrinal fidelity to a notion of battle-fleet command of the sea. In 1939, pending the availability of a balanced fleet capable of challenging the Royal Navy for command of the sea, the German Navy was committed to the waging of a "tonnage war" against merchant shipping, to be conducted both by very powerful surface raiders and by submarines.

7. Halford J. Mackinder, *Democratic Ideals and Reality* (New York: Norton, 1962). "What if the Great Continent, the whole World-Island [Europe, Asia, and Africa] or a large part of it, were at some future time to become a single and united base of sea-power? Would not the other insular bases be outbuilt as regards ships and outmanned as regards seamen?" (p. 70). This quotation, taken from the title essay, was first published in 1919.

8. Alfred T. Mahan, *The Problem of Asia and Its Effect upon International Policies* (Boston: Little, Brown, 1905; first pub. 1900), pp. 62–63.

9. Wolfgang Wegener, *The Naval Strategy of the World War* (Annapolis, Md.: Naval Institute Press, 1989; first pub. 1929).

10. Nicholas J. Spykman, *America's Strategy in World Politics: The United States and the Balance of Power* (Hamden, Conn.: Archon Books, 1970; first pub. 1942), and *The Geography of the Peace* (New York: Harcourt, Brace, 1944).

11. George Liska, "From Containment to Concert," *Foreign Policy*, Spring 1986, p. 9.

12. Mackinder, pp. 259–62. Writing in 1883, J.R. Seeley was fearful for maritime Britain's ability to compete with the rising power of the United States and Imperial Russia. He wrote that: "Between them [the United States and Russia], equally vast but not continuous, with the ocean flowing through it in every direction, lies like a world-Venice, with the sea for streets, Greater Britain." *The Expansion of England* (Illinois: Univ. of Chicago Press, 1971; first pub. 1883), p. 227 (and see his concluding chapter, pp. 231–43).

13. Arthur J. Marder, "The Influence of History on Sea Power: The Royal Navy and the Lessons of 1914–1918," Marder, *From the Dardanelles to Oran: Studies in the Royal Navy in War and Peace* (London: Oxford Univ. Press, 1974), p. 57.

Ψ

This Issue's Cover

Two USS *Kitty Hawk* F-14 Tomcats fly sunset "touch-and-goes" in this dramatic painting by William S. Phillips entitled "Those Last Critical Moments." The aircraft approaching from the right, tailhook lowered, is lining up on the vertical red "drop lights" on the transom and also on the green "meatball" (visible between and slightly higher than the horizontal green "datums" forward on the flight deck, to the left). A-7 Corsairs and SH-3 Sea King helicopters are parked on deck. (Copyright, The Greenwich Workshop, Inc., Trumbull, Conn., (800) 243-4246; by permission.)

Stealth Technology in Surface Warships

Captain John W. McGillvray, Jr., U.S. Navy

FOLLOWING THE ATTACK upon the USS *Stark* (FFG 31) by Iraqi Exocet missiles in May 1987, the U.S. Navy greatly accelerated its efforts to improve anti-ship missile defenses. Much emphasis was placed on improvements to point-defense missile and close-in weapon systems that could destroy the anti-ship missiles themselves ("hard kill"), on improvements to the performance of the Standard surface-to-air missile warhead and fuse against sea-skimming cruise missiles (another "hard kill" system), and on improvements to the integration of electronic warfare detection and other "soft kill" systems aboard ship and in embarked helicopters. Another area of research that has received increased attention is the improvement of the "soft kill" performance of expendable chaff decoy systems by significantly reducing the warship's radar cross section (RCS). Employing low-observable or "stealth" technology, designers have attempted to reduce a ship's RCS to less than that of a deployed chaff cloud. Theoretically, the chaff cloud would then become a more attractive target for the missile's seeker and more effectively "seduce" the missile toward itself and away from the ship.

Since many airborne and surface-search radars also operate in the same I (8 to 10 gigahertz) and J (10 to 20 gigahertz) frequency bands, as do terminal radar seekers of many anti-ship cruise missiles (or ASCMs), stealth also makes a ship more difficult for many ship and aircraft search sensors to detect. Decreased detectability offers additional advantages (and also some disadvantages) in the stealth warship's capability to perform various naval missions.

The application of modern stealth technology to surface warships differs from its use in military aviation, where the goal is, to the maximum extent possible, to make the aircraft "disappear." By reducing the visual, radar, infrared, acoustic, and electronic signatures, "all-aspect" (or 360-degree) stealth strongly enhances a strike aircraft's ability to survive in a high-threat area. In the cases of the B-2

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and F-117 aircraft, 360-degree stealth features dominated the entire design and manufacturing processes, resulting in very expensive aircraft. Due to the laws of physics, however, we cannot make a large surface combatant "disappear," even if we radically alter its design. To attempt such a change is neither cost-effective nor desirable; sometimes, in fact, we want the surface ship to be *very* visible—for instance, for navigation in busy traffic-separation schemes, in "forward presence" visits overseas, and in Freedom of Navigation operations. The primary purpose of stealth technology in a surface warship is to make the ship appear, to the active-radar, terminal-guidance seeker of an ASCM, smaller than a chaff decoy—that is, to make the ship a less conspicuous missile target and improve thereby the warship's defensive "soft kill" capability.

Using unclassified and open-source material exclusively, this article evaluates the ASCM threat to surface warships today and explores how stealth technology can improve ship survivability in the face of this threat. It then examines potential roles for a "more survivable, less detectable" warship in the execution of the National Military Strategy.

The Anti-Ship Cruise Missile Threat

The proliferation of high-technology anti-ship cruise missiles to more than seventy countries poses a most formidable threat to surface warships today. Rear Admiral Edward Sheafer, USN, Director of Naval Intelligence, recently testified, "Widely deployed, anti-ship cruise missiles give coastal navies a potential lethality far out of proportion to their size."[1] Many of the small navies of lesser-developed countries, in an effort to exercise local sea control with only a modest expenditure, have purchased sophisticated, modern ASCMs as "Great Equalizers."[2] Accurate, lethal, "shoot-and-forget" weapons such as the French-built Exocet are widely exported for profit. As of January 1992, the reported worldwide inventory of Exocets included almost 5,000 missiles exported to twenty-nine countries, including Libya and Iraq.[3] Additionally, the Soviets and Chinese have exported more than 10,000 Styx and Silkworm missiles to about twenty-two countries. Also, as seen at a recent Moscow air show, many of the newer and more sophisticated Russian ASCMs are now for sale.[4] Even the United States has exported a missile—the Harpoon, a very accurate and potent sea-skimming weapon—to about twenty countries.[5] Such missiles can easily be adapted for launch from a variety of platforms, including surface ships, small patrol boats, helicopters, various tactical and maritime patrol aircraft, submerged submarines, fixed shore sites, and even trucks. ASCMs vary in range, warhead size, and flight profile; many, however, are sea-skimmers (that is, they approach their target at such low altitude as to be undetectable to most surveillance radars), and most employ an I or J-band active radar seeker for terminal homing.

Using the MM-40 Exocet surface-to-surface missile as an example, with capabilities listed in open-source literature, the threat could develop like this. Aboard a small patrol boat about twenty-five miles from your ship, targeting data has been programmed into a storage container that also functions as the missile launch tube. A sixteen-foot-long, 1,875-pound Exocet with a 360-pound high-explosive, fragmentation warhead is launched; your ship is the intended target.[6] Using its inertial guidance system and radar altimeter, the missile flies near the sea surface at about six hundred miles per hour. Total time of flight is about 150 seconds. At a range of about twelve miles, when the Exocet enters your radar horizon, the missile's active radar seeker turns on in accordance with its prelaunch targeting instructions. The missile acquires your ship and descends to its second cruise altitude, less than ten feet above the water. Now on its final approach, the missile is less than seventy-five seconds from impact. Fortunately, you are operating at a high alert condition, and the Exocet's seeker is detected by your passive electronic sensors. You have about one minute to shoot down or decoy this missile. The stealth technology and radar-absorbing materials also used by many weapons' manufacturers to diminish the RCS of their ASCMs likely make it very difficult for your "hard-kill" systems to acquire, track, and destroy this one.[7] Accordingly, your fire control radars must look for a missile with an RCS similar to that of a large bird. If you do not successfully counter the missile, the resulting damage will be similar to what the *Stark* suffered in the Persian Gulf or HMS *Sheffield* during the war in the Falklands.

This is *why* stealth technology is being introduced into our surface warships. What follows is *how* it is employed to counter the enemy missile's seeker.

How Does "Stealth" Work in a Surface Warship?

Stealth is not new to naval warfare. For centuries, man has used the vastness of the oceans to hide from the enemy. Submariners have long relied on stealth to avoid detection and to position themselves for a submerged torpedo or, today, cruise missile attack on enemy surface shipping.

"Observable" Signatures. Today's typical surface combatant has five distinct emission signatures that make the ship vulnerable to detection and enemy attack. All of these signatures must be minimized.

- *Acoustic*—caused by machinery noise radiating from the hull into the surrounding water. Extensive efforts have been made to shock-mount equipment and otherwise mask this signature.
- *Electronic*—generated by active electronic emitters radiating into the atmosphere. It can be silenced by turning off the emitters; however, the ship then loses its radar detection and radio communication capabilities.

- *Visual*—simply the fact that a ship is visible to the human eye during daylight hours. A ship's wake is visually detectable from the air and from space, and it has a surprisingly long persistence. Beyond improving mottled paint schemes, which lessen the contrast detected by electro-optical sensors, little can be done to alter a ship's visual signature in daylight.
- *Infrared (IR)*—caused by thermal radiation in the electromagnetic spectrum, particularly in the wavelengths corresponding to a region known as the Middle IR, or MIR. "Hot sources [such as exhaust uptakes and exhaust gases] radiate strongly in the MIR region. . . . Indeed, such is the level of IR radiation in these areas that what amounts to two percent of the ship's [total surface] area can produce 99 percent of the total MIR signature. . . . It is the MIR 'window' and these concentrated IR sources [that attract ASCMs having IR or dual-mode (IR-and-radar) seekers]. . . ."[8]
- *Radar Cross Section (RCS)*—that is, radar energy reflected by the ship. The strength of this signature is "influenced by the size of the ship, its angular orientation, the absorption coefficient of the materials from which it is constructed, and by the frequency of the illuminating radar."[9] Since most ASCMs employ active-radar terminal seekers, the RCS signature is the most important. Accordingly, we will hereafter focus primarily on the surface warship's RCS signature and how it can be minimized.

Radar Cross Section. The RCS of an object is defined as "a measure of the power reflected in a specific direction and is normally expressed in square meters or logarithmically in decibels per square meter (dBsm)."[10] While an entire ship as a whole (that is, in its macrogeometry) reflects radar energy, individual parts of its superstructure and also small objects such as gun mounts, radar antennas, lifeline stanchions, and deck lockers (that is, microgeometry) also reflect energy separately, each object according to its shape, size, and orientation with respect to the incoming radar energy. Because many of these smaller reflecting objects are approximately the same size as the wavelength of the illuminating radar, they are called "prime (or 'resonant') scatterers."[11] All of these reflections, from macro- and microgeometry, combine to influence the total RCS.

Most ship superstructures, and hull forms as well, have extensive flat, vertical surfaces and also many shapes formed by two or three planes that intersect at ninety degrees. Topside configurations also include numerous vertical cylindrical forms, such as kingposts, stanchions, and masts. These shapes—vertical surfaces, planes joining at ninety degrees, and vertical cylinders—intensify an already large RCS.[12]

The two principal ways of reducing a warship's RCS are the application of radar-absorbent material (RAM) to the most reflective parts of the ship and the use of computer-aided design (CAD) to optimize the shape of the hull and superstructure. CAD modeling helps engineers estimate, and then minimize by

reshaping, the radar reflection from the three-dimensional forms that make up the ship. The goal of shaping is to eliminate sharp corners and vertical surfaces, and otherwise cause the radar energy to be scattered away from the enemy and not reflected back in the specific direction of the enemy radar receiver. With regard to RAM, the goal is to absorb radar energy, to trap it in a medium that will dissipate its microwave energy as heat and thereby eliminate most of the reflection. Obviously, for ships already constructed the incorporation of stealth technology is largely restricted to the installation of RAM. In that connection, emerging stealth technology is producing today a variety of new and increasingly effective radar-absorbent materials, including "structural RAM" and RAM with IR-suppression characteristics.

Recent Warship Applications. Stealth technology is already being incorporated in warship design by a number of navies. For example, in its description of the USS *Arleigh Burke* (DDG 51), *Jane's Fighting Ships 1991–1992* notes that its "stealth technology includes angled surfaces and rounded edges to reduce radar signature. . . ."[13] Also, the new French *La Fayette*–class frigate is apparently being built with stealth features. The shape of its hull and superstructure avoids any vertical surfaces. Most of its superstructure is enclosed, and RAM may be used to reduce RCS further.[14] Likewise, the Israeli Navy is incorporating a defense system with extensive stealth features (involving both shaping and RAM) in the design of the new Sa'ar V corvette being built by the Ingalls Shipbuilding yard at Pascagoula, Mississippi.[15]

The British, for their part, are experimenting with "multi-spectral" materials—RAM that includes IR-reflective materials and thereby simultaneously reduces both the ship's RCS and IR signatures.[16] An advertising leaflet describes the complexity of this material: ". . . ADRAM (Advanced Dielectric RAM), which covers the range 6–35 [gigahertz . . . and] employs a honeycomb with a radar-transparent outer skin of Kevlar, a Nomex core containing an absorber, and a reflective carbon fibre inner skin."[17]

The Swedish navy has built a prototype ship for stealth optimization. *Smyge*, as it is named, is an experimental surface effect ship which incorporates extensive stealth features, including retractable masts and antennas, an angled superstructure and hull form, and stealth coverings for the gun mount, missile launcher, and most deck fittings.[18] During testing, the Swedes hope to gain extensive knowledge on all aspects of stealth to demonstrate the offensive and defensive usefulness of stealth properties and to validate their predictions that the prototype can evade ASCM seeker lock-on.[19]

Finally, the author toured the *Udaloy*-class destroyer *Admiral Vinogradov* during the visit of Soviet warships to San Diego in 1990 and observed numerous rounded edges on the superstructure that appeared to be covered with RAM.

When asked, Soviet officers confirmed that the purpose of the covering was to "absorb radar."

As previously noted, the actual performance of the stealth treatment in various ships is carefully guarded. No unclassified figures are available that show actual RCS measurements or actual test results specifying the effectiveness of stealth against various missile seekers. However, Table 1, which has been adapted from a published study, illustrates the general concept of RCS measurements.

Another published study clearly shows, with the following example, how a stealth warship's survivability increases. "A typical frigate or destroyer might have an RCS of 25,000 square meters [44 dBsm]. This can be reduced to 12,500 square meters by a 3 dBsm reduction (achievable with some low-performance radar absorbing paints) and to as little as 6,300 square meters [38 dBsm], with other RAM materials. . . . On a platform equipped with modern chaff launchers, where RCS is reduced [with shaping and the application of RAM] by as much as 16 dBsm, the overall radar cross section is *less* than the echoing area of the protective chaff bloom."[20] In other words, if a warship with an RCS of 44 dBsm is "treated" to achieve a minus-16 dBsm reduction, it will theoretically have an RCS measuring 28 dBsm—less than 1,000 square meters. This is slightly larger than that of a two-hundred-ton boat and well below the RCS of a "two-round" chaff cloud (i.e., a radar-reflective cloud formed by firing two countermeasure projectiles). Figure 1, adapted from that study, illustrates how stealth works in theory.

Other Advantages of "Low Observability." As previously mentioned, the application to a warship's superstructure of RAM "tuned" to be most effective against I and J-band radar seekers affects the performance of search sensors operating in the same frequency range. The stealth destroyer noted in the example above would present to the surface-search radars carried on many ships and aircraft a smaller radar target than before, one detectable only at a closer range.

Treating large areas of the superstructure with RAM is also likely to reduce electromagnetic interference (EMI) between the ship's own sensors. Many metallic lifeline arrangements, topside lockers, deck fittings, and mast structures that reflect the ship's own radar and communications emissions, causing interference, are now covered with a material that absorbs electromagnetic radiation. This reduces extraneous electromagnetic energy in the vicinity of topside antennas and improves the performance of radar and communications receivers on board.

For ships equipped with active electronic countermeasures (ECM), a reduced RCS is of particular benefit. For an incoming missile "jammed" by active ECM, a "burn-through" range exists where the actual radar energy reflected back to

the missile by the ship overcomes the jammer's power output; at this point, the ship's active ECM is no longer effective, and the missile will "see" the ship and attempt to maneuver to hit it. With stealth, less radar energy is reflected, and the shipboard jammer, without increasing its power, becomes more effective. "Burn-through" occurs closer to the ship, where the missile has less time and space to maneuver.

Though not an operational advantage, the appearance of topside areas is improved by stealth technology, which requires removal of all unnecessary lockers and "stuff" that tend to clutter the weather decks. Conversely, and very importantly, the operational performance of the stealth treatment is significantly degraded if topside areas are not kept free of unnecessary reflective clutter. Something as seemingly inconsequential as a trash can or a swab bucket could significantly increase a ship's RCS.

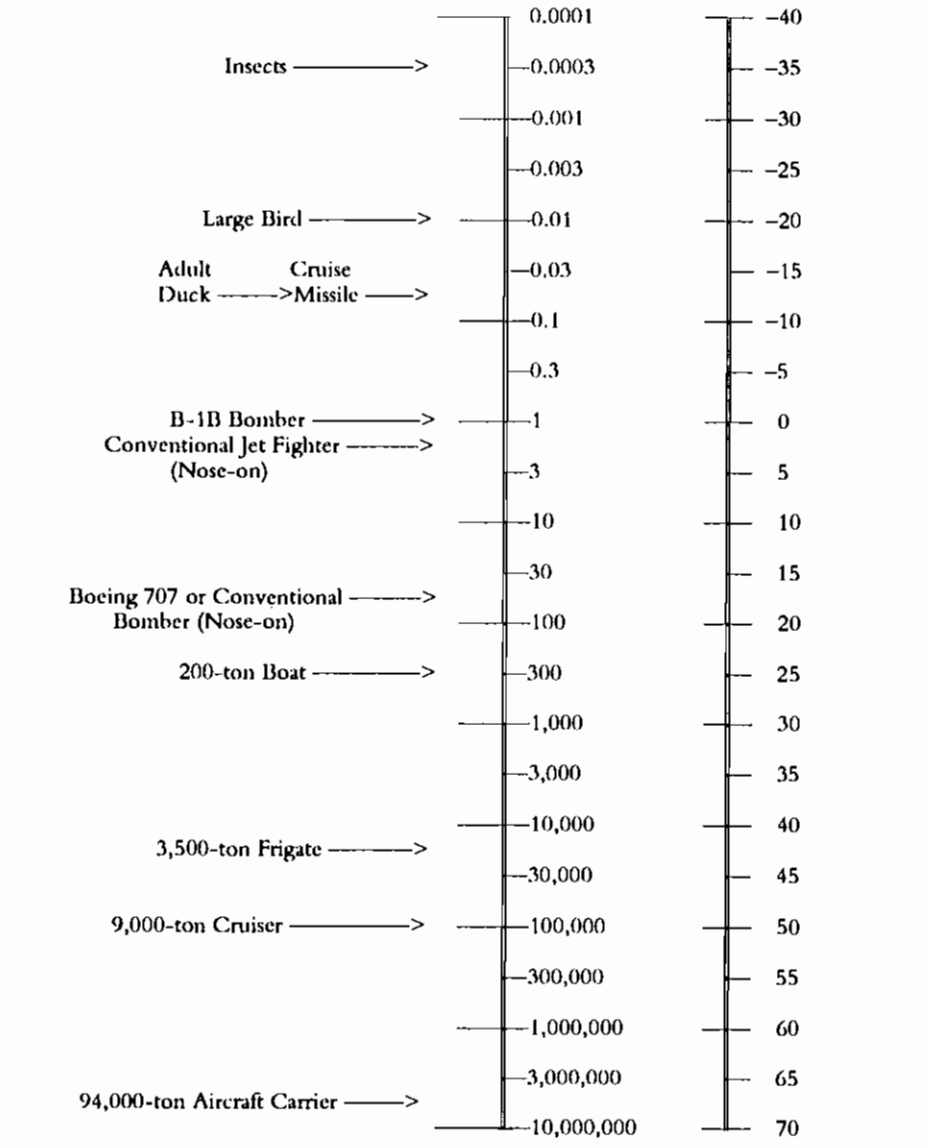
Disadvantages. As noted, reduced detectability on radar can be a safety hazard when maneuvering in fog or reduced visibility, particularly in areas of high shipping density. This disadvantage can be overcome either mechanically (by using portable radar reflectors) or electronically (with an electronic repeater or "blip enhancer" to give a larger RCS). Stealth warships might choose to operate in peacetime with portable radar reflectors rigged in order to conceal the ship's actual "stealthy" RCS until it is tactically needed.

Treatment with RAM adds several tons of weight high above a warship's previous center of gravity, adversely affecting the ship's stability and seakeeping ability. For older ships already having a topside weight problem, this could be a serious concern. As new ships are designed incorporating this technology, initial weight and moment calculations (related to stability) can allow for stealth additions. For new construction, stealth design involves proportionally more superstructure-shaping and less RAM application, and therefore less topside weight.

Finally, stealth technology in a surface warship is associated with a defensive "soft kill" capability that lacks credibility in the minds of some naval officers. The natural instinct is to act aggressively and attempt to shoot down an incoming missile with a "hard kill" system rather than launch a chaff decoy and wait to see if it works. Many ships, lacking an integrated electronic warfare suite, find it difficult to tell if the deployed chaff decoy is being effective. Even if the combination of chaff and stealth appears to be working, many would still question: "Will the chaff continue to be effective as the missile nears the ship?" "Are we *one hundred percent certain* that stealth will be effective against this particular ASCM seeker?" "Are we presenting the ship's 'stealthiest' aspect to the seeker?"

Table 1

Radar Cross Section

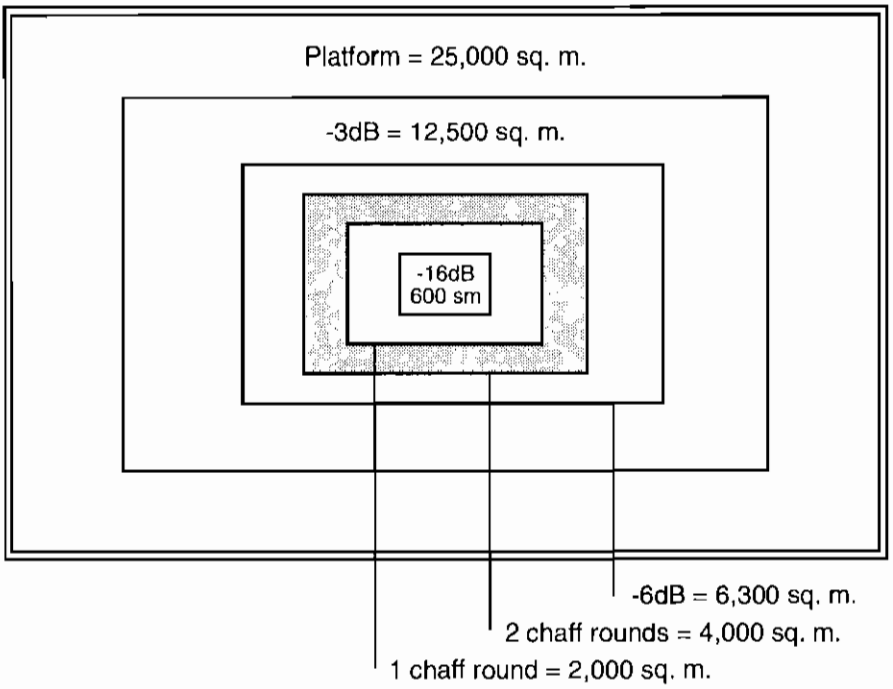


Radar cross section figures shown should be regarded as approximate: they have been taken from sources that may not be accurate, and RCS varies greatly with aspect, radar frequency and polarization, roll of the ship, and other factors.

Source: Adapted from William D. O'Neil, "Don't Give Up on the Ship," U.S. Naval Institute *Proceedings*, January 1991, p. 48.

Figure 1

Improved Survivability of a "Typical" Frigate or Destroyer



-44 dBsm	=	25,000 sq.m.=	untreated ship
-3 dBsm	=	12,500 sq.m.=	achievable with low-performance radar-absorbing paints.
-6 dBsm	=	6,300 sq.m.=	with other RAM installed
As much as -16 dBsm	=	600 sq.m.=	modern warship design with shaping and RAM.

Source: David Foxwell, "Stealth: The Essence of Modern Frigate Design", *International Defense Review*, no. 9, 1990, pp. 988–90.

Potential Roles for Stealth Warships

In the words of the new maritime White Paper, "As Naval Forces shift from a Cold War, open ocean, blue water naval strategy to a regional, littoral and expeditionary focus, *Naval organizations will change*. Responding to crisis in the future will require great flexibility and new ways to employ our forces."[21] In responding to a crisis situation, naval expeditionary forces have long been seen as the flexible military instruments of first choice; this will not change. Such

forces are rapidly deployable, can remain in a region indefinitely, and can be quietly withdrawn if policy makers reach a diplomatic solution or choose not to intervene. As we exercise "gunboat diplomacy" in a crisis situation and threaten the use of force to support U.S. foreign policy objectives, we are likely to be doing so in a tense near-land or littoral environment made especially dangerous today by the proliferation of high-technology anti-ship weapons.

Forward Presence and Crisis Response. Stealth adds to our capability to conduct the forward presence mission by allowing U.S. warships, visible evidence of our commitment to our allies and to maintaining peace and stability, to operate with relative safety in sensitive parts of the world. As the U.S. Navy becomes smaller, we must be able to execute the overseas forward presence mission with only one or two surface combatants, perhaps with amphibious forces, and often without the support of an aircraft carrier battle group (CVBG). For them to be effective, it must be clear to potential adversaries that these smaller forces are capable of actually carrying out the threat they represent: to that end, Tomahawk, Harpoon, and Standard missiles provide a cruiser or destroyer with an impressive combat capability. Equally important, these ships must be able, without the protection of CVBG aircraft, to defend against a significant ASCM threat. Stealth should give these ships a defensive edge in countering such an attack.

The U.S. Navy is already testing different deployment concepts, such as Maritime Action Groups consisting of different combinations of cruisers, destroyers, amphibious ships, submarines, and maritime patrol aircraft but *no* aircraft carriers.[22] The superior capabilities of newer Aegis-equipped surface combatants, as well as the demise of the Soviet naval threat, will probably allow a reduction of the number of ships in CVBGs themselves to six ships from the current nine-to-eleven.[23] (It should be noted, however, that while stealth technology provides a defensive edge for the "treated" combatant, it does nothing to protect sealift vessels or large amphibious ships that might be under escort as part of a forward presence or crisis response operation. Incorporating stealth into large, "boxy" ships would be prohibitively expensive and impractical in general, especially for leased, commercial sealift vessels.)

Crisis response might well involve enforcing economic sanctions—more precisely, a naval blockade. This mission, frequently executed by a few surface combatants operating independently, aims at frustrating a state's efforts to import or export. These blockading ships would be ideal candidates for stealth treatment, especially if the sanctions were causing such pain that our local sea control might be challenged by ASCM attack.

Power Projection. After their impressive performance in Operation Desert Storm, Tomahawk-capable ships might well be targeted in a future enemy's first

strike. Stealth technology offers them a greater degree of protection from enemy ASCMs and could allow them to project power from confined areas near land where an aircraft carrier might not be able to operate safely. Stealth could allow combatants to provide naval gunfire support, or transport special operations forces, near to the shore.

It is questionable, however, whether stealth treatment is physically or economically feasible for larger ships that project power ashore, such as aircraft carriers or some amphibious ships. A Naval Studies Board review of future aircraft carrier technologies, entitled "Carrier-21: Future Aircraft Carrier Technology," concluded that "attempting to reduce the radar signature of aircraft carriers would be prohibitively costly."[24]

Stealth warships, operating at night with their own electronic emissions suppressed, obtaining targeting data by a receive-only data link, and employing "stealthy" missile-equipped attack helicopters, could represent a force with an impressive ability to seek out and destroy the enemy.

Skeptics might ask, "Is it worth the effort to try to protect our surface ships? Why do we need to establish local sea control?" In reply, as one author stresses, "The day of the surface warship has not passed. . . . [Recent] events in the Gulf have shown that sea transportation is still essential for the passage of raw materials and heavy military equipment. Surface ships will continue to be needed until peaceful nations stop using the sea for economic survival and until military nations no longer perceive a need to project power beyond their own borders. The debate must therefore be about ways of ensuring the survival of ships."[25]

Stealth is not magic! It is not the ultimate protection against every sort of anti-ship attack. Due to the laws of physics and the limitations of finance, we cannot install stealth technology into our largest warships and our sealift ships. It is unlikely that stealth will defeat every radar-homing ASCM, every time. Stealth might not be effective against a far-advanced ASCM that uses a new type of seeker for terminal homing or that can discriminate better than is now possible between a chaff decoy and a warship. But today, stealth offers an increased degree of protection for a large number of our present and prospective surface combatants, at a modest cost. This system, when used with properly deployed chaff decoys, has the potential to defend against the present generation of widely available radar-homing ASCMs.

The question is not one of either "hard kill" *or* "soft kill," as some would contend. We must take advantage of every tool available—both "hard kill" *and* "soft kill, *enhanced by stealth*"—to give us the greatest chance of survival against the ASCM.

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Ψ

One DD captain told this observer that in his opinion the most important difference between peacetime training and operating in war was that now he had to think for himself.

Joseph H. Wellings,
writing as a U.S. Navy observer
with the Royal Navy, November 1940

The Argentine Navy and United Nations Peace-Keeping Operations in the Gulf of Fonseca

Commander Juan Carlos Neves, Argentine Navy

PEACE-KEEPING OPERATIONS ARE NOW one of the most important activities of the United Nations. Peace-keeping operations are not new; however, while only thirteen were conducted by the U.N. between 1945 and 1987, the same number was carried out between 1988 and January 1992. In fact, of the $8.3 billion that has been spent by the U.N. on peace-keeping operations through January 1992, about $3 billion has been committed in the last twelve-month period alone.[1]

The growth of this U.N. activity is a direct consequence of the international organization's more influential role since the end of the Cold War. It is also a result of the end of hostility between the five powers with veto rights on the United Nations Security Council. In fact, whereas 279 decisions of the Security Council have been vetoed since the creation of the U.N. in 1945, since 31 May 1990 no vetoes have been recorded.[2] The U.N. has been allowed to develop a broad spectrum of operations in defense of peace and stability.

Commander Neves, commanding officer of the destroyer ARA *Almirante Brown*, was assigned to the U.S. Naval War College from 1991 to 1993, first as a Naval Command College student and then as the Argentine Navy Research Fellow in the Center for Naval Warfare Studies. Previously he had commanded the fast patrol boat ARA *Intrepida* and served several tours in surface ships including an aircraft carrier, cruisers, destroyers, and corvettes. He saw active service during the Malvinas/Falklands War aboard the destroyer ARA *Segui*. Commander Neves holds a master's degree in international relations from Belgrano University, Buenos Aires, and a master's degree in management science from Salve Regina College, Newport, R.I.

Due to restrictions imposed by United Nations classification rules, information known to military observers by reason of their specific work is not discussed in this article. Its contents reflect the author's personal views and are not necessarily endorsed by the U.S. Naval War College or the Argentine Navy.

The author wishes to express his appreciation to Commander Harry Phillips, USN, of the Center for Naval Warfare Studies for valuable assistance in an earlier draft of this article.

While there are other important U.N. procedures designed to seek international peace, such as preventive diplomacy, peacemaking, and post-conflict peace-building, this article focuses only on peace-keeping. Peace-keeping is characterized as "the deployment of a United Nations presence in the field, hitherto with the consent of all parties concerned, normally involving United Nations military and/or police personnel and frequently civilians as well. Peace-keeping is a technique that expands the possibilities for both the prevention of conflict and the making of peace."[3] Although the concept of peace-keeping is still in the evolutionary stage, it is important to point out some of its definite characteristics that will help in understanding the actions developed for the Gulf of Fonseca.

First, peace-keeping operations require the consent of all the involved parties. They are significantly different from enforcement measures allowed under Chapter VII of the U.N. Charter, and the differences have obvious implications for the operational arena. Second, peace-keeping operations are executed with full respect for national sovereignty and the necessity for non-interference in internal affairs of U.N. member states.[4] Finally, it is necessary to keep in mind that peace-keeping operations are provisory, actions carried out to attempt to stop or prevent a conflict; final settlements must be reached through political agreements amongst the parties involved, a favorable climate having been created by such operations.

In the procedural field, peace-keeping operations also have other features that commend them. They are always executed under the control of the U.N. Security Council, through the office of the Secretary-General; they are generally not under the command of countries from the immediate operational area, nor are they generally under the independent national command of the country to whom the participating forces belong.[5] The U.N. requires that forces employed in peace-keeping be from one or more member states, which provide them on a voluntary basis. Once forces are committed, they act under the U.N. flag.

Peace-keeping operations present an unavoidable degree of risk. Through January 1992, over eight hundred personnel from forty-three countries have died in peace-keeping operations serving under the flag of the U.N.[6] This is an important point to keep in mind when unarmed forces are deployed into conflict areas. Finally, these operations are costly to the United Nations in financial terms. Some support is provided by the host countries, but the cost of peace-keeping operations (including translation services, personnel allowances, logistic peace-keeping, etc.) is borne by the U.N. and represents a real constraint for the start-up and maintenance of operations.

Until 1990, peace-keeping operations were carried out by only land and aviation assets. The U.N. has acquired much experience and background in the deployment of these kinds of forces. This said, the deployment of naval forces,

as was required by the unique geography of Central America, presented new challenges to U.N. peace-keeping operations.

Historical Background of the Peace-keeping Operation in Central America

In the early eighties, Central America represented a typical Cold War scenario wherein the leftist and rightist governments and guerrilla groups fought for power and control with the direct or indirect support of both superpowers. Old border disputes and mistrust among the regional actors added further instability to an already difficult situation.

There were two main issues in Central America at the time. On one hand, the leftist revolutionary governments in Cuba and Nicaragua, supported by the Soviet Union, were actively supplying insurrectional groups in Honduras, Guatemala, and El Salvador.[7] In El Salvador, the guerrilla forces of the Frente Farabundo Marti para la Liberación Nacional (FMLN) had reached a level of power capable of seriously challenging the control of the constitutional government. On the other hand, an insurrectional group known as the Nicaraguan Resistance Fighters, or "Contras," fought the leftist Nicaraguan government, acting from Honduran territory with the declared support of the United States.

The United States, while supporting the governments of El Salvador and Honduras, harassed the Nicaraguan "Sandinista" revolutionary government in many different ways.

Completing the scenario, the three primary regional actors (Nicaragua, Honduras, and El Salvador) all share maritime frontage on the Gulf of Fonseca (see maps). This arm of the ocean had been an area of dispute over fishery resources, islands, and maritime boundaries that seriously affected the relationship among the three small regional navies. In the Cold War context, the Gulf of Fonseca served as a supply line of communication over which the leftist Nicaraguan Sandinista forces provisioned the Salvadoran FMLN guerrillas. The word that best describes the regional situation at the time is "volatile"—volatile because of the multiple factors capable of provoking an explosion of violence and instability.

In January 1983, the foreign ministers of four Latin American countries with interest in the area (Colombia, Mexico, Panama, and Venezuela) met on the Panamanian island of Contadora to look for a solution to the worsening Central American situation. These countries signed in July 1983 the "Declaration of Cancún about Central American Peace" and organized themselves as the "Contadora Group" to advocate peace and development in the region. In August 1985, four South American countries—Argentina, Brazil, Peru, and Uruguay—organized themselves as the "Support Group to Contadora" in an attempt to demonstrate the increasing concern and interest generated by the Central American conflict in the whole of the Western Hemisphere. At the time, the risks of an open war among the Central American countries, or of direct foreign intervention in the region, were the roots of this concern.

In August 1987, encouraged by the measure of goodwill generated by the Contadora Group and the Support Group, and convinced that continuation of the crisis was not acceptable, the presidents of Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica met in Guatemala City and took a transcendent step by signing an agreement known as "Esquipulas II." Esquipulas II established a framework for a definitive solution based on the principles of dialogue between opposing parties, amnesty, reconciliation, and democratization. Furthermore, and directly related to the subject of this article, Point Five of the agreement urged all parties to dedicate themselves to the cessation of aid to irregular forces and insurrectionist movements operating in the region; Point Six committed all five signatories not to allow the use of their territory for actions intended to disrupt another Central American government.[8] It is obvious that the Nicaraguan and Salvadoran presidents did not have uppermost in their minds the same insurrectional movements, nor were they referring to the same territories when agreeing to these articles; while one was thinking of the Nicaraguan Resistance acting from Honduras, the other had in mind the FMLN

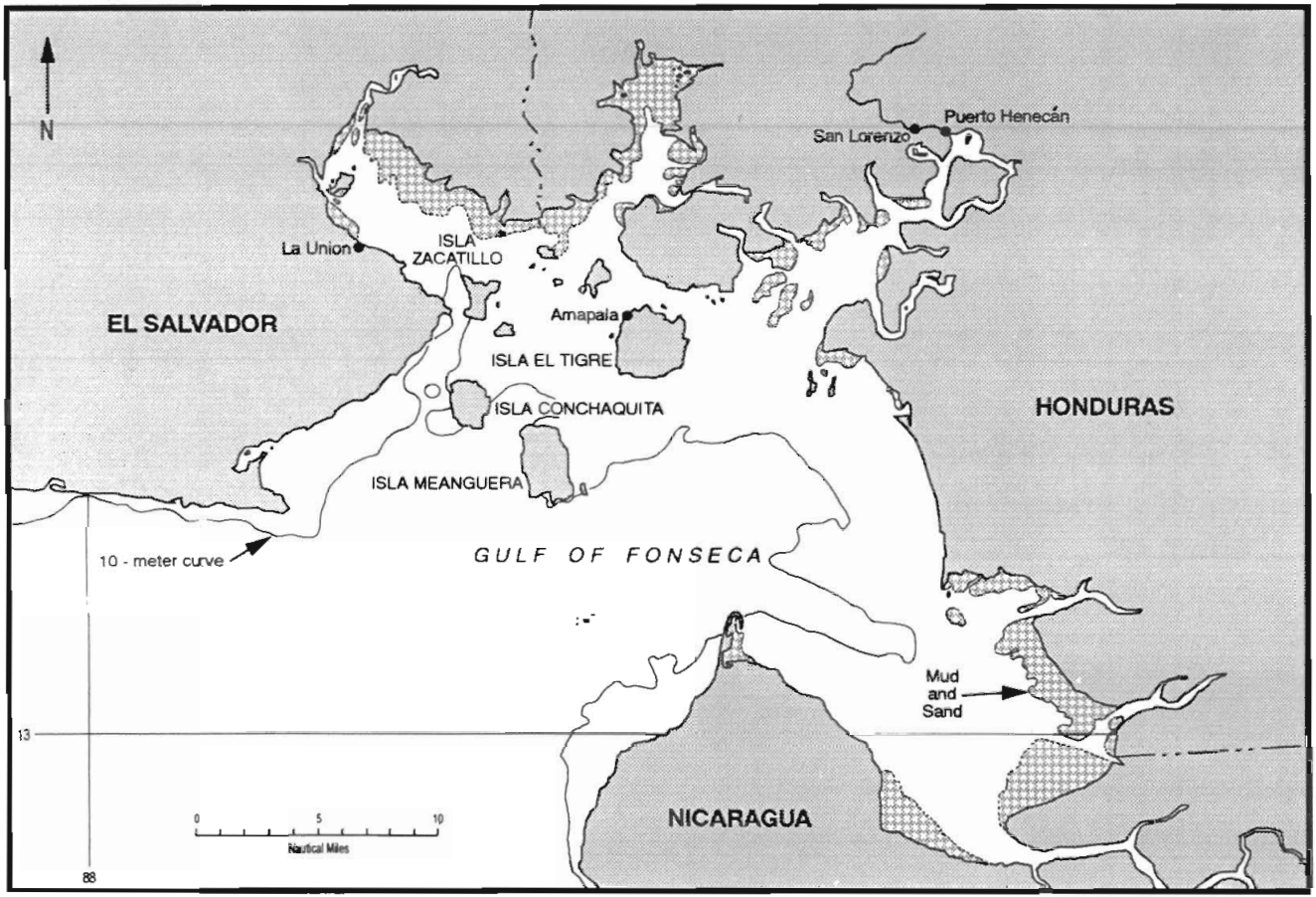
supported from Nicaragua. All, however, shared the need to stop hostilities in their respective countries, and all were ready to begin taking the steps necessary to carry out their commitments. Proof of this willingness was Point Ten of the Esquipulas II agreement, which called for the creation of an international commission to verify and follow up on the commitments agreed to. This clause was to be the seed of the future peace-keeping operations.[9]

Despite all the goodwill, intentions, and agreements, the situation in the region continued to be volatile throughout 1987 and into 1988. With the increasing thaw in the Cold War, however, the superpowers displayed proportionately less interest in supporting insurrectional movements in Central America. This trend, in turn, facilitated increasing United Nations involvement in the region and offered an opportunity for progress in the peace process.

In November 1988, the ministers of foreign affairs of the five Esquipulas II signatories addressed a letter to the U.N. Secretary-General asking for an impartial way to conduct on-site verification of points Five and Six of the agreement (referring to cessation of aid to insurrectionist movements and non-use of territory of one state to attack others). The response to this request in January 1989 presented the parties with a variety of peace-keeping operations options and outlined the principles and procedures of each. The U.N. reply pointed out the difficulties that the terrain presented for observers; it also stressed the necessity that all parties involved, even irregular forces and insurrectionist groups, must accept U.N. conditions prior to the commencement of any such operations.[10]

It took about six months and many meetings of all concerned to remove the obstacles to full acceptance of an international peace-keeping operation. Meanwhile, it became plain that the problem of Central America was unmanageable without external help. Finally, in August 1989, the Tela Declaration, signed in Honduras by Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua, formalized the requirement for an international peace-keeping force to be dispatched to Honduran territory.[11] The Tela Declaration also presented a joint plan for the voluntary demobilization, repatriation, or relocation of members of the Nicaraguan Resistance in Nicaragua or other countries and appealed to the FMLN to halt its military activities in order to put an end to hostilities in El Salvador. The agreement allowed the U.N. Security Council to adopt Resolution 644/89 on 7 November 1989, creating the United Nations Observer Group in Central America, or Grupo de Observadores de las Naciones Unidas en Centroamérica—ONUCA.

The resolution incorporated the substance of a report of the Secretary-General dated 11 October 1989. The report addressed the mandate, required capacities, and specifics of the command and organization of the U.N. force. The Security Council's mandate was to conduct on-site verification of the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Puerto Henecán
San Lorenzo
La Union
ISLA ZACATILLO
EL SALVADOR
Amapala
ISLA EL TIGRE
ISLA CONCHAQUITA
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cessation of aid to irregular forces and insurrectionist movements, and the non-use of the territory of one State for attacks on other States.[12] The ONUCA forces were to be capable of: monitoring, on a regular basis, areas reported to be harbor bases and camps of irregular forces and insurrectionist movements; monitoring land, sea, and air borders on a regular basis; investigating immediately any complaint received from one of the five governments of alleged violations relating to the cessation of assistance and non-use of territory.[13] As for command arrangements, the report established that ONUCA "should be under the command of the United Nations, vested in the Secretary-General, under the authority of the Security Council."[14]

The Secretary General's report also pointed out that the combination of static observation posts and patrols by foot, vehicle, and aircraft that was usual in other U.N. peace-keeping operations was not appropriate in the Central American region due to characteristics of the terrain. It proposed instead mobile teams of military observers having at their disposal helicopters, vehicles, and seagoing vessels as necessary to accomplish their mission. This was the first mention of the need for naval platforms; the report then went on to point out that the mobile teams would carry out regular patrols "by vehicle, by helicopter and, in the Gulf of Fonseca and certain other coastal areas and rivers, by patrol boats and light speedboats."[15]

The initial ONUCA organization was outlined in the report as follows: a headquarters located in Tegucigalpa, Honduras; a liaison office in each of the capitals of the five Tela Declaration countries; thirty-three verification centers, each manned by a mobile team of military observers; a naval unit consisting of about eight vessels, to be based at La Union, El Salvador; and an air wing comprising one fixed-wing aircraft and twelve helicopters. The personnel required included 260 Military Observers, about 115 aircrew and support personnel for fixed-wing aircraft and helicopters, around fifty naval crewmembers and support personnel, up to fourteen medical specialists, about 104 members of the U.N. international staff, and some eighty-two locally recruited civilians. ONUCA would involve an interesting combination of ground, aerial, and naval assets and about 625 personnel.[16]

There were other important features in the report as well. First, the military observers of ONUCA would not be armed. This basic requirement forced the U.N. to look for cooperation from the irregular forces and insurrectionist movements. These contacts would be informal and would in no way imply recognition of any such group. However, it was clear that ONUCA's ability to carry out its mandate would depend to a large extent on such cooperation. In exceptional cases, an armed escort would be requested from the regional governments to protect ONUCA personnel during the exercise of their functions. Second, all the means of transport required to carry out ONUCA's

mandate, including fast patrol boats, would have distinctive United Nations colors and markings. Finally, ONUCA would be deployed in four phases for a period of six months. The naval vessels would be incorporated during the second phase, meant to begin no later than four weeks after the adoption of the resolution.

The characteristics of ONUCA and of its environment, mandate, and diversity of assets meant that this would be an ambitious and complex peace-keeping operation. The deployment of the military observers and the aviation element was accomplished according to the four-phase plan. When the Secretary-General recommended the use of naval units in the Gulf of Fonseca, he followed the advice of the U.N. military staff in order to reach the best technical solution for the accomplishment of ONUCA's mission. But the use of ships under U.N. command for the first time in a peace-keeping operation in the history of the organization confronted it with complications that had never before been experienced. The first of such complications was in obtaining the ships themselves, as can be seen in the following.

ONUCA's mandate was established in November 1989 for a six-month period. The mandate was extended four times—in May 1990, November 1990, May 1991, and November 1991—for similar time frames. During the first period, the mandate was also *enlarged* two times, i.e., new tasks were added to the original mission.

At the end of the first period, on 27 April 1990, the Secretary-General issued a report of ONUCA activity for the first six months of its mandate and recommended to the Security Council that the mandate be extended for an additional six months.[17] The U.N. Security Council subsequently approved the extension in Resolution 654/90.

The best piece of news during this period occurred on 25 February 1990, when the national election in Nicaragua facilitated the beginning of voluntary demobilization of the members of the Nicaraguan Resistance. ONUCA's mandate was accordingly enlarged—by Resolution 650/90, to monitor the demobilization process; and by Resolution 653/90, to monitor the cease-fire and the separation of forces. The deployment of the military observers and the aviation element had been accomplished according to the four-phase plan.

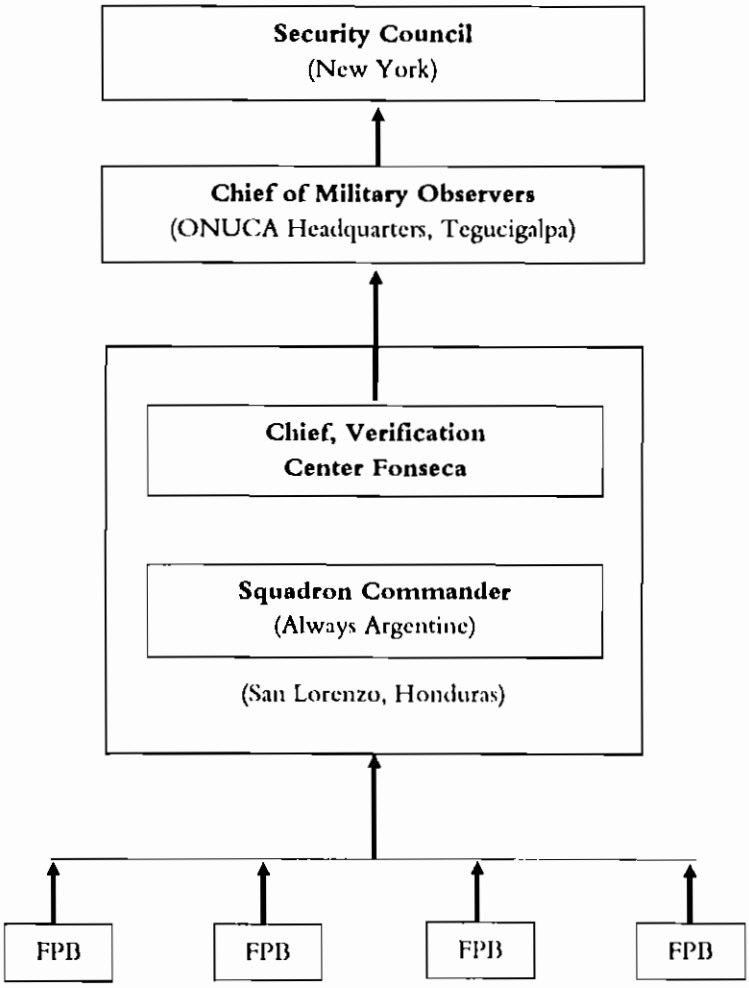
Not all the news was good, however. First, the FMLN continued its military activity despite the promise of talks between the government of El Salvador and the insurrectionist movement. Second, by February 1990 difficulties had arisen in obtaining the fast patrol boats necessary to complete ONUCA's responsibilities. In the words of the U.N. Secretary-General, Jávier Perez de Cuellar, "It proved unexpectedly difficult to find a Member State able to supply the four fast patrol boats, together with their crews, required for patrolling the Gulf of

Fonseca."[18] However, the Secretary-General was to find a solution to the problem in the assistance rendered by Argentina.

Incorporating Naval Units in the Peace-Keeping Operations

In February, the Under Secretary-General established informal contact with the U.N. Argentine Mission in New York, requesting Argentina provide four fast patrol boats (FPBs) to be used as the naval element of ONUCA. The countries that had originally agreed to provide them were unable to do so. In less than two weeks, the Argentine government accepted the request and offered for the ONUCA mission four Israeli-built *Dabur*-class fast patrol boats.[19] The quick Argentine response was the result of a confluence of favorable political and military factors. First, the Argentine government had enthusiastically embraced the idea of a "New World Order" based on the decisive role of the United Nations in resolving international conflicts. Thus the U.N. request offered Argentina an opportunity to begin to change its traditional policy of non-involvement in foreign conflicts and to show a clear Argentine commitment to the New World Order ideal. Secondly, Argentina had always been interested in the Central American conflict and had been a member of the "Support Group to Contadora" since 1985. Argentina's presence in Central America was consistent with its previous efforts to work toward peaceful and regional solutions to conflicts in the Western Hemisphere. Thirdly, in a time of budgetary constraint, the Argentine Navy considered its participation a good opportunity to improve its training, readiness, and crew experience without incurring additional cost to itself (since the operation would be paid for by the U.N.). Furthermore, the operation seemed useful for demonstrating once again the broad field of action that a navy can perform in support of national policies in the international arena. Finally, it is necessary to point out that thanks to the 1984 treaty on the Beagle Channel mediated by Pope John Paul II between Argentina and Chile, the situation in southern Argentina (where the FPBs had usually been employed) was stable enough to allow redeployment of the ships without risk.

These first satisfactory contacts between the U.N. and Argentina, which were the expression of common political objectives, were followed by a long period of discussion and agreements as practical problems requiring resolution surfaced. Some of these problems arose when U.N. regulations, devised for managing land-based and aviation assets, were applied to ships. Others were specific issues resulting from the deployment of naval units in an alien environment far from their support bases. Finally, lack of previous experience in using ships in peace-keeping operations created new situations that required original solutions and flexible responses.



Chain of Command

During March 1990, two Argentine Navy officers with broad experience in the Argentine Fast Patrol Boat Division travelled to the ONUCA mission area to study the environmental and operational conditions the naval units would face.[20] This trip and subsequent extensive correspondence between U.N. and Argentine representatives led to the agreements that are discussed below. The presentation is not chronological but by subject; despite some inevitable overlap, this approach provides a better understanding of each issue.

Command. Among the first matters discussed were command responsibilities and the chain of command. It was clear from the beginning that in accordance with Security Council Resolution 644/89 the naval group would be under U.N. command and authority. This decision was implemented in the following way (see figure).

Each FPB had its Argentine crew and commanding officer who had full responsibility for their own navigational and operational safety. Commanding officers would, moreover, assist U.N. Military Observers in their observational tasks. The four FPBs were under the command of a squadron commander appointed by the Argentine Navy, with headquarters at San Lorenzo, Honduras. This commander had full command responsibility for the FPBs, for the squadron's readiness, and for organizational and administrative matters. The squadron commander would report directly to the U.N.-appointed Chief of Verification Center San Lorenzo (later renamed Verification Center Fonseca). This officer was responsible for all activities of the Verification Center, including the operations of the FPBs and the actions of its U.N. Military Observers (UNMOs). The Center was located close to the squadron's base of operations at Puerto Henecán, Honduras. The UNMOs had the task of routine observation and the additional duty of staffing the Verification Center. Finally, the Chief of the Verification Center came under the direct authority of the U.N.-appointed Chief of Military Observers of ONUCA, with headquarters located in the Honduran capital, Tegucigalpa. This officer was the highest authority in the field and reported to the U.N. Security Council through the Secretary-General.

In 1991 the U.N. requested that a senior Argentine Navy officer be appointed as Chief of Verification Center Fonseca, and in November 1991 another Argentine naval officer, in the grade of commander, was included in the headquarters staff. These appointments were a recognition of the professional capabilities of Argentine naval officers during the peace-keeping operations and of the outstanding job they had performed, but the additions did not change the operational chain of command, which remained as above until ONUCA's dissolution.

To complete the picture, it is necessary to mention that the squadron commander came under the authority of the Argentine Chief of Naval Operations for deployment and recall of ships and personnel. Additionally, the squadron commander addressed all logistical requirements and regular reports through the Argentine naval attaché in Washington, D.C.

Symbols, Color, and Markings. Another matter receiving attention and discussion was the way the national flag and the U.N. flag should be displayed by a ship operating under U.N. authority. From the Argentine point of view, the use of both flags (national and U.N.) was an acceptable solution. However, the *United Nations Flags Code and Regulations* establishes specific rules that cannot be

ignored. According to the Code, "On no account may any flag displayed with the United Nations Flag be displayed on a higher level than the United Nations Flag and on no account may any flag so displayed with the United Nations Flag be larger than the United Nations Flag."[21] Hence, U.N. legal advisors insisted that the U.N. flag should be the same size or larger than the ship's own ensign and should fly at all times from the top of the mainmast. Furthermore, they advised that should the U.N. flag be flown during hours of darkness, it should be illuminated so as to be clearly visible. The final settlement was that the FPBs would fly the U.N. flag as required and would display the Argentine national ensign on the flagstaff at the stern.

Another issue, more difficult of practical solution, was that of vessel color and markings. The United Nations requires that any ship operating under its authority be painted white. Moreover, the words "UNITED NATIONS" are to be painted on both sides of the ship in black or dark blue letters, and the abbreviation "U.N." displayed on front and rear surfaces of the hull and superstructure. All lettering should be as large as possible but in proportion to the area wherein located. Finally, United Nations logos are to be provided and fitted in visible parts of the ships. Implementation of these requirements for the Argentine FPBs was not very complicated, due to the vessels' small size. However, it did cost the U.N. about $20,000 (U.S.) to paint the ships to U.N. specifications and a similar amount to return them to their original colors at the end of the operation. The ships were duly painted before arriving in the mission area.

The issue of color and markings of ships operating under U.N. control could become a major problem, depending on the size of the vessel. To paint and stencil a larger ship, such as a destroyer or frigate, according to U.N. rules could be expensive and time-consuming. Moreover, modern ships use paints with specific technical requirements that may not be available in the color white.

Now, it follows that, should it become desirable to employ a capital ship, such as a cruiser or an aircraft carrier, in the service of the United Nations, painting could become quite expensive and could entail significant delay in the execution of a peace-keeping operation. It is appropriate, then, to suggest that the U.N. should consider accepting more flexible rules permitting the partial painting of large ships, such as painting only the hull or designated superstructure areas. In any case, the issue of identification markings requires reexamination if the U.N. expects to use large ships in future peace-keeping operations.

Weapons and Rules of Engagement. This matter involved the most sensitive issues raised in the preliminary agreements. The ONUCA mandate from the Security Council was for an unarmed peace-keeping operation; consequently,

one of the first and clearest U.N. requirements was to dismantle all weapons aboard the FPBs.

Sending unarmed surface combatants close to the coast in a conflict area is not a satisfactory option for any navy, even if such vessels are identified as United Nations units. However, the U.N. absolutely insisted on this point, recalling that the mission imposed was one of patrolling, observing, and reporting, a mission that did not require weapons; that the FPBs did not have the right to stop or inspect ship traffic; and that the Security Council mandate could not be altered under any circumstances. An Argentine proposal to keep some dismantled weapons aboard for the purpose of self-defense was also refused. In the end, all weapons, the two 20mm and two 12.7mm guns, were off-loaded.

At this point, it is necessary to reflect on the implications this requirement has for the use of larger ships for peace-keeping operations (which generally do not require the use of force, as opposed to peace-enforcement operations). Once again, it was the FPBs' small size that made it possible to dismantle the weapons without major practical difficulties. However, the same requirement applied to a destroyer or frigate could be almost unaffordable. Dismantling a large gun, with or without its armored mount, is costly, complex, and time-consuming. Sophisticated antisurface and antiaircraft missile launchers cannot be easily removed, and they require elaborate and expensive alignment when reinstalled. Finally, it would be difficult for U.N. member states to reach the political decision to send large, expensive ships manned with numerous personnel into risky areas without any weapons.

In the future, it may be that unarmed peace-keeping operations could be carried out only by small combatants or by cargo or transport ships, should the U.N. not become more flexible on this issue. One solution might be that ships under U.N. control be allowed to maintain their weapon configuration but with strict rules of engagement that restrict their use to those circumstances specifically authorized by U.N. headquarters. Another solution could be to operate ships with their weapons in place but without embarking ammunition. In any case, it is an issue that must be carefully analyzed should the United Nations desire that a ship's capabilities be fully available in peace-keeping operations.

For the Gulf of Fonseca operations, two important measures were adopted to avert risks to the unarmed FPBs and increase their margin of safety. First, as mentioned by the Secretary-General in his report of 27 April 1990, ONUCA maintained informal contacts with the principal irregular forces and insurrectionist movements in the region in order to seek their cooperation in the implementation of ONUCA's mandate and to ensure that no threat was presented to ONUCA's personnel. In spite of reservations expressed by the insurrectionists concerning ONUCA's original mandate, the Nicaraguan Resistance was already engaged in the process of demobilization, and the FMLN assured the Chief

Military Observer that all its personnel had received orders not to undertake any hostile action against ONUCA verification centers or patrols. Moreover, the FMLN had suggested that certain steps be taken to reduce the risk of accidental confrontations with ONUCA, and, according to the April 1990 report, these measures had been implemented.[22]

Secondly, it had originally been planned to station the FPBs in El Salvador, but the base was changed before their arrival to a new location near San Lorenzo, Honduras.[23] There was no official explanation, but it is easy to infer that one reason might have been the unstable situation and continued hostilities in El Salvador, which limited ONUCA's ability to patrol in that country and forced ONUCA to maintain there only a verification center, in the capital. Another reason might have been the "suggestions" made by the FMLN that the FPBs might be threatened should they be based in El Salvador. In any case, the new location was adopted, and it offered a safer environment for the ships.

The fact that the FPBs were to operate unarmed forced an early definition of the rules of engagement (ROE) to be included in the final settlement between Argentina and the U.N. It was agreed that the FPBs and their crews would operate unarmed, and that should an FPB be attacked during a patrol, the crew would take evasive action, withdraw from the attack scene, and report the incident to ONUCA Headquarters, asking for the immediate assistance of the naval authorities of the coastal state having jurisdiction over the waters where the FPB was operating.[24]

These ROE did not follow the classic way in which navies traditionally operate. They did not even consider the undeniable right of self-defense. However, the ROE were consistent with the mission and the policy of maintaining unarmed ships in the area. Clearly, peace-keeping operations require highly disciplined naval crews able to change their ways of conducting operations; although trained to react aggressively when faced with combat situations, the crews need to adopt a more passive attitude as qualified, impartial observers. This said, the degree of risk incurred by operating under such conditions is one of the main factors to be analyzed when planning peace-keeping operations.

Logistic Support. The United Nations required the Argentine government to keep its ships in the mission area capable of operating, on the average, 150 hours per month per FPB. To satisfy this requirement, the Argentine Navy deployed a mobile maintenance team composed of one officer, two enlisted men, and a "Conex" box (a standard metal container) with the necessary tools and spare parts.

The Argentine Navy has always encouraged and trained its crews to carry out onboard maintenance. That policy proved valuable in this environment, because

as a result each crew had the necessary skills to interact actively with the small mobile maintenance team in performing maintenance.

The Argentine squadron commander was directly responsible for FPB readiness in the field. He could address to the Argentine naval attaché in Washington, D.C., those special spare parts requirements that could not be satisfied in the local area. Moreover, he had the support of Argentine Navy technical departments in solving unusual problems as they arose.

It is necessary to mention that the usual difficulties of maintenance were increased by the features of the area. One negative factor was the distance between the sources of logistical support and the FPBs. Another problem was the environmental conditions, which affected equipment and required additional effort by maintenance personnel. The high temperatures produced unexpected failures in battery electrolytes and gyrocompass fluid. The intense use of the FPBs in these conditions decreased the time between failures and increased the frequency of maintenance work. The human factor was the key in overcoming these difficulties. Both the Argentine maintenance team and crews were highly committed to their mission and considered it a matter of personal and national pride to keep the FPBs operational in accordance with the U.N. requirements. As usual, human motivation made the difference between success and failure.

The host country, Honduras, provided space within the commercial port of San Lorenzo for naval group installations, allocated pier space to the FPBs, and allowed the vessels to be maintained in drydock facilities in the port of Amapala and later at the Amapala Naval Base. The rapid bottom growth of barnacles required frequent use of these facilities.

As part of the agreement reached between the U.N. and Argentina, ONUCA built the following installations for the naval group: the commandant's (squadron commander's) office; an operations office; general office, mess, and recreational facilities; an operations support group workshop; a guardhouse for two men; a kitchen; sanitary installations; and warehouse space for two Conex boxes stocked with spare parts, tools, lubricants, and oils. Furthermore, ONUCA also installed a pierside 220-volt electrical system with 100-kilowatt-hour capacity, a water pipeline and in-line purification system, and a five-thousand-gallon fuel tank to service the FPBs. The U.N. was responsible for providing all fuel. Argentine personnel were housed in two local hotels in Choluteca, a city located about thirty kilometers from the port. Ground transportation was provided by ONUCA vehicles.

In combined operations involving different countries, communications is always a critical issue, due basically to the differences in equipment. In this case, ONUCA provided UHF-FM, VHF-FM, and walkie-talkie equipment to all

operational units and to shore facilities involved. This arrangement was very effective in linking helicopters, FPBs, and the Verification Centers.

Finally, the transportation of the FPBs from Argentina to the Gulf of Fonseca and back was provided by cargo ships chartered by the U.N. The return trip was onboard a U.N.-chartered Argentine Navy cargo ship. The burden of logistical efforts was jointly shared by ONUCA and the Argentine Navy. After the craft arrived in the operations area, ONUCA provided funding support which reimbursed the Argentine Navy logistics system.

In the end, all logistical arrangements proved satisfactory in ensuring FPB readiness throughout the eighteen-month deployment. The key points that ensured success were: assigning all maintenance responsibilities to national teams, standardizing communication equipment, and maintaining fluid coordination among all parties.

Personnel. Due to funding concerns, the U.N. required that the size of each FPB crew be reduced from the normal nine, suggesting that the personnel usually dedicated to weapons be assigned elsewhere. The Argentine Navy agreed to man each FPB with a crew of six: two officers (one lieutenant and one lieutenant junior grade or ensign) and four enlisted men. The total number for the four FPBs was twenty-four. Additionally, the Argentine task force was augmented by the squadron commander (a lieutenant commander), the mobile maintenance team (Grupo de Apoyo Operativo, or operational support group, in Argentine Navy terms) of one officer and two enlisted men, and a navy physician. The entire FPB squadron comprised twenty-nine members of the Argentine Navy.

The United Nations normally requires that personnel be assigned for a one-year tour, but due to Argentine Navy regulations all task force personnel were rotated home after six months (with an overlap of key personnel). This conveniently matched the original six-month ONUCA mandate and its subsequent six-month extensions. In an attempt to decrease the time needed to adapt to the operational arena, some personnel who had formed part of the first deployment group were sent again in the third rotation.

All naval personnel enjoyed the same privileges and immunities as did the ONUCA observers.[25] These privileges and immunities are enumerated in Article 105 of the United Nations Charter and Article VI of the Convention on Privileges and Immunities (concerning experts on mission, which applies to observers), and were acceded to by all five governments in the mission area.[26]

Argentine Navy personnel were allowed use of their national uniform with the following modifications: a shoulder patch provided by the U.N. was attached on one shoulder and a national identifying symbol (in this case a small Argentine flag) on the other; United Nations berets, cap badges, scarves, and field caps provided by the U.N. were to be used.

Although the observer selection criteria are the prerogative of the government providing the observers, the United Nations usually establishes clear requirements with regard to rank, professional background (as concerning combat or combat troop-training experience), physical condition, and medical examinations. In this case, the naval group members were not considered as observers (although, as noted, they enjoyed the same privileges and immunities) but as ships' crews having a specific patrolling mission; therefore, for them the Argentine government was obliged only to satisfy U.N. regulations concerning medical fitness and documentation.

Finally, it is interesting to consider training. Although the FPBs' usual sub-Antarctic operating area of Southern Argentina presents environmental conditions very different from those of the subtropical Gulf of Fonseca, both regions demand the professional skills required for sailing in restricted waters, close to the land, and in poorly charted waterways. From the naval point of view, the highly trained Argentine ships' crews did not require any special training. The crews studied the U.N.-provided guidebook for ONUCA military observers outlining rights and duties and received a background briefing on the general area; they were oriented as well to the details of the mission and the specific agreements reached between the U.N. and the Argentine government. Area in-processing and familiarization required very little time. The fact that the crew members were not classified as military observers simplified the indoctrination task.

In the author's personal opinion, the major issue for the average, trained naval crewman involved in peace-keeping operations is not the professional requirements but the necessary change of attitude mentioned above, from that of a combatant to that of a peace-keeper. The classic proactive attitude encouraged as the correct naval demeanor needs to be transformed into the equally firm but less aggressive behavior befitting impartial members of an international group. The change of mental "gears" from the role of active participant to that of witness or observer requires much effort—to capture the spirit of peace-keeping, to think of oneself as a U.N. representative rather than as a member of a national military force, and to act within narrowly defined and restrictive rules. All of these changes of attitude may take more time than is normally required for other formal training.

Financial Arrangements. The U.N. assumes the responsibility for paying the costs of its sponsored peace-keeping operations. However, each operation presents peculiar features that need to be discussed and agreed upon.

The expenses of the naval operation in the Gulf of Fonseca began with the predeployment FPB preparations. The United Nations paid for painting the ships in accordance with U.N. rules, dismantling the weapons systems, and the

environmental modifications that enabled the ships to operate in a tropical environment. The U.N. then funded the transportation of the four FPBs to the deployment area via chartered cargo ship and for the transportation of the crews by air. In the operations area, the U.N. paid for the construction of support facilities ashore, communications equipment, and ground transportation.

As the Argentine government was ultimately to be reimbursed by the U.N. for ensuring the FPBs' readiness in the mission area, the Argentine Navy was required to provide an accurate running total of costs, including FPB preventive and corrective maintenance, spare parts, depreciation, and operation. The U.N. insured the FPBs against damage to third parties and collision. Additionally, as noted, it provided the fuel oil necessary for operations.

With respect to personnel costs, a problem arose over a discrepancy between the per diem allowance allocated by the U.N. and that set by Argentine regulations for governmental officers performing duties in Central America. The resulting gap in pay could not be resolved, and making up the difference was the major national cost incurred by the Argentine government.

It is easy to infer that ship deployments are a very costly operation for the United Nations. The financial aspects of peace-keeping are in fact a major problem for the international organization. In the words of the Secretary General, "A chasm has developed between the tasks entrusted to this Organization and the financial means provided to it."[27] Clearly, to deploy a group of large ships for a long period of time would be a very expensive operation for the U.N. In the Gulf of Fonseca, the small size of the naval vessels, the small number of crewmembers, and the simple technology of the units involved favored the feasibility of the operation. In actions that involve larger ships, over longer periods of time, funding may be the most crucial issued to be resolved. In some cases a member state might be able to afford the financial burden of its own fleet operations dedicated to a U.N. peacekeeping mission. But this financial self-sufficiency, which is available only to a few rich countries, may be seen by other U.N. member states as affecting the indispensable independence of the mission's operation and thereby jeopardize the U.N. image. In fact, if the United Nations cannot afford its own missions, peace-keeping operations will be dependent on the member states with financial capability to pay for them. These considerations can only complicate the financial problems of mounting peace-keeping operations.

Formal Process. While the preliminary agreements discussed above were being developed, the Argentine government and the U.N. exchanged the necessary formal communications. On 6 April 1990, the U.N. Secretary-General addressed a letter to the Permanent Representative of Argentina to the United Nations presenting the formal requirement for the FPBs in accordance with

previous negotiations. The interesting factor to be considered here is the Argentine decision-making process that facilitated the deployment of national naval forces under the U.N. flag. According to the Argentine Constitution, the National Congress is the branch invested with the power to approve the deployments of military forces outside the country's borders. However, since the U.N. Security Council had made a formal representation to Argentina, and since signing the United Nations Charter is viewed as constituting a formal commitment on the part of any signatory, the executive branch of the Government of Argentina assumed it was allowed to make the decision by itself. Furthermore, the constitutional congressional power with respect to deployment of military forces is usually interpreted as referring to the use of such forces in combat. Hence, this power may not necessarily be applicable when forces are engaged in unarmed peace-keeping operations. In any case, the political decision was taken by the Executive on the advice of the ministers of foreign affairs and defense, and was not challenged.

The formal response of the Argentine government was dated 6 June 1990. By this time most of the operational arrangements and agreements between the parties had been achieved. On 18 July 1990, a note outlining the main points of the different agreements, including the rules of engagement, was presented by the Argentine U.N. Representative and, per normal diplomatic protocol, this note with the Secretary-General's response with no modifications was adopted as the final document of agreement.

Meanwhile, on 27 June 1990, the Argentine FPBs arrived in the mission area to start the first peace-keeping operation involving naval units under U.N. control and flag.

Operations in the Gulf of Fonseca

When the four Argentine FPBs, named ARA (for Armada de la República Argentina) *Baradero, Barranqueras, Clorinda and Concepción del Uruguay*, arrived in Honduras in late 1990, the situation in Central America was still far from quiet.

The Nicaraguan Resistance had been demobilized with the assistance of ONUCA forces, but relations between the newly elected democratic president, Violeta Chamorro, and the Sandinista forces were very strained. In El Salvador, despite talks between the government and the FMLN, intense military actions continued to be mounted by both parties, and ONUCA activities were accordingly restricted. In June 1990 ONUCA was carrying out its second six-month mandate (that established by Security Council Resolution 654/90), with observers from Brazil, Canada, Colombia, Ecuador, India, Ireland, Spain, Sweden, and Venezuela (in all, 254), with an aviation group from Canada of

130 personnel, and now with the newly arrived twenty-nine man naval group from Argentina. The total military force was 413 personnel.

On 29 June 1990, two days after their arrival, the FPBs hoisted the U.N. flag for the first time in a ceremony officiated by the Chief of Military Observers, Spanish General Agustín Quesada Gomez. The FPBs then conducted their first navigational cruise of the area, combining the purposes of patrol and familiarization. Two days later, on 1 July, three of the ships departed on their first operational patrol in the Gulf of Fonseca and ventured as far as the open Pacific Ocean.

Operational Organization. It was not easy to translate into a concrete naval mission the Security Council mandate, which called for on-site verification of the cessation of aid to irregular forces and insurrectionist movements operating in the region, and of the non-use of the territory of one state for the purposes of attacking others. It was possible, however, to agree that the FPBs would patrol the Gulf of Fonseca with observers aboard, monitor the area to verify the cessation of maritime aid to irregular forces and insurrectionist movements, investigate charges of breach of the commitments of the Esquipulas II agreement, and, above all, to establish a U.N. presence as a deterrent to improper activities.

To accomplish the assigned missions, the squadron commander, working with the Verification Center's operations officer and intelligence officer, designed several patrol patterns by which the FPBs could effectively cover the area. Each patrol required at least one embarked observer. The task of the observer, supported by the crew, was to identify and relay ashore all contacts in order to develop a complete database from which the area's maritime traffic patterns could be determined; this was then analyzed and evaluated for suspicious behavior.

During the first fifteen days that the crews were in the area, their main concern was with area familiarization to verify the doubtful accuracy of their navigation charts and the channel buoyage. This completed, daily patrols were carried out in the Gulf of Fonseca and on rivers discharging into it. Where shallow water prevented FPB operations, the craft anchored and deployed two crew members and one observer in a small rubber motorboat (Zodiac-type). Operations were executed without restriction in Honduran and Nicaraguan waters, but FPB commanders were ordered to remain outside of three nautical miles of the Salvadoran coast because of possible threats from that shoreline. The Salvadoran restriction was lifted in September 1990. That same month, the FPB crews became familiar enough with the area to begin night patrols. It was also during this period that patrols began incorporating Alouette and Bell JetRanger helicopters, each carrying one observer and one Argentine Navy officer. These

new capabilities broadened the area coverage, which enhanced the effectiveness of the deterrent presence desired by the U.N.

In his report to the U.N. Security Council dated 26 October 1990, the Secretary-General stated that the San Lorenzo–based naval group had performed 1,180 patrol hours since the beginning of its operation, and he described its activities.[28] In the same report the Secretary-General, after providing a broad appraisal of the situation in Central America and the effectiveness of the peace-keeping operation, asked the Security Council for a new (second) six-month extension to the ONUCA mandate. The Secretary-General proposed to reduce the number of observer personnel by about forty percent (to 158), the number of helicopters by fifty percent (from twelve to six), and also the rank of the Chief of Military Observers—but to retain the whole naval group.[29] This proposal was fully accepted by the Security Council. It is possible to infer from the 26 October report that in fulfilling the U.N.'s main objective (which was to establish a visible and deterrent presence to prevent violations of the Esquipulas II agreement[30]), the naval group had become the most important and effective instrument at this stage of the peace-keeping operations.

Relations with the Parties. The presence of naval units was by far less intrusive in the area than ground-based forces or even aviation. In fact, no complaints arose against FPB activities, and on many occasions the Verification Center was obliged to refuse requests for FPB intervention in local fishing disputes and other activities that lay outside the purview of the ONUCA mandate.

However, the relationship between the Argentine naval group under U.N. control and some of the parties to the Esquipulas II agreement were, in the beginning, not always easy. It was necessary to overcome the mistrust of some of these countries and to exhibit a permanent attitude of impartiality with respect to all parties. There were three major areas of confidence-building and coordination. First, in coordination with the squadron commander, the Verification Center's operations officer was made responsible for preparing a weekly FPB patrol plan. This plan was presented in advance to the three countries with territorial waters in the Gulf of Fonseca (El Salvador, Honduras, and Nicaragua). Second, visits by the FPBs to naval bases in the three countries were scheduled on a regular basis. These visits were usually conducted twice monthly at the Amapala Naval Base in Honduras and the La Union Naval Base in El Salvador, and once monthly at the Corinto Naval Base in Nicaragua (which was far distant from San Lorenzo). These visits were very useful for exchanging information, discussing common concerns, and improving general relationships. A common language (Spanish) was spoken by the three regional navies and the Argentine crews; this clearly facilitated communication among the parties. Third, all parties were advised that one FPB with observers would always be on duty, ready to

investigate claims and incidents. Luckily, after some months of operations, situations requiring investigation became infrequent.

During the eighteen months of operations in the Gulf of Fonseca, the naval group achieved full acceptance and understanding of its presence and mission. Relations with the parties, even with those who had been at first most reluctant to accept a U.N. presence, became excellent. In informal comments, the conflicting parties acknowledged the stabilizing effect of the FPBs on the area. Perhaps this was one of the more important successes of the entire peace-keeping operation.

Internal Relations. It is always a challenge to mount military operations in which multinational forces act under a combined international staff, particularly if they involve naval operations in an alien environment. In such situations, it is almost self-evident that emphasis needs to be placed on human relations and the understandable concerns that arise over the rights, duties, responsibilities, and safety of the national personnel and equipment employed. Because of this, and despite the fact that command and staff relationships had been negotiated and agreed to prior to the FPBs' arrival in the Gulf, arrangements needed to be readjusted after the start of operations.

In the beginning, all staff and planning responsibilities rested with the assigned U.N. Observers, because they were officially assigned as part of the Verification Center staff. However, it soon became apparent that the active participation of the squadron commander in all planning processes was not only desirable but essential. There also developed a close cooperation between the FPBs' commanding officers and the Verification Center's staff members, one that was highly beneficial for both parties.

One of the key ingredients of healthy relationships in an international environment is mutual trust. This trust is an essential requirement for good relationships and efficient teamwork, and it arises between military members of an ad hoc organization only through reciprocal recognition of their professional capabilities. For this reason, it is important to emphasize here that when a country is to be involved in U.N. peace-keeping operations, it should assign the most highly trained and qualified personnel so as to promote this trust.

In Verification Center Fonseca, the fact that the international staff soon recognized the professional competence and operational expertise in FPBs of the newly arrived Argentine crews allowed quick integration and effective teamwork. As a result of the mutual trust engendered, a new set of internal organizational guidelines for the Verification Center was formulated and adopted as Standard Operating Procedures.

In December 1990, the U.N. requested that a senior Argentine naval officer be assigned as Chief of Verification Center Fonseca when the incumbent, a

Canadian, completed his tour of duty. This Argentine senior officer had charge of the international group of observers and operational control of all maritime patrols carried out by the FPBs and helicopters. Because Verification Center Fonseca had direct contact with officials from three different countries, its chief reported directly to the Chief of Military Observers in Tegucigalpa (see figure, above). This chain of command was satisfactory and effective for the fulfillment of the mission.

Wrap-Up Operations. Naval operations in the Gulf of Fonseca were carried out throughout 1991 with growing success and were recognized by the U.N. and the regional governments as an important contribution to the peace process in Central America.

The FPBs were very capable vessels, and the rate of their daily and nightly patrols reached more than 400 patrol hours in some months. The first Chief of Military Observers and also his relief visited Verification Center Fonseca and participated in special patrols. The U.N. Under Secretary-General himself visited the area in January 1991 and sailed on the FPBs and rubber motorboats. All this activity served to reinforce the idea that the U.N. naval presence was an essential element that contributed greatly to the difficult task of creating an appropriate environment for regional political reconciliation. The six-month ONUCA mandate was extended two more times during the course of 1991.[31]

In September 1991, the United Nations requested the Argentine government to provide a medical group composed of four navy physicians and four nurses. In October, as already mentioned, the U.N. requested an additional senior naval officer for ONUCA's staff in Tegucigalpa.

Meanwhile, peace talks between the FMLN and the government of El Salvador had experienced dramatic progress. After the total demobilization of the Nicaraguan resistance and the settling of Honduran and Salvadoran border problems through arbitration, the internal fighting in El Salvador remained as the last big conflict in the area. The growing isolation of the FMLN after the collapse of the Soviet Union, the loss of interest on the part of some regional neighbors who had supported the FMLN, and the increasing impediments to weapons traffic on the ground and at sea were important factors in forcing the insurrectionists to the negotiation table. The New York Agreement, signed by representatives of the government of El Salvador and the FMLN under United Nations auspices, was the first step of the peace process in this Central American country.

As a direct consequence of the New York Agreement, the U.N. Security Council decided, in Resolution 730/92, to terminate the ONUCA mandate. The FPBs made their last patrols on 16 January 1992. The next day, the Argentine government and the U.N. began preparations to redeploy the boats

and crews. On 1 March 1992, the FPBs were loaded on board the Argentine Navy cargo ship ARA *Canal Beagle* to return to their homeport in Ushuaia, Tierra del Fuego. The Argentine medical team remained in the area and worked with the United Nations Observer Group in El Salvador (ONUSAL), a new ad hoc U.N. organization created to monitor the continuing Salvadoran peace process.

Results and Consequences of the Naval Operations. The Argentine naval group operated in the Gulf of Fonseca under the U.N. flag from 29 June 1990 through 17 January 1992. In January 1991, at the height of the operation, the FPBs logged more than 2,100 patrol hours conducted in over 290 separate patrols, with about 1,300 contacts made and three hundred ship photographs taken. During the course of the entire deployment, the FPBs together recorded more than 72,000 nautical miles sailed in 6,479 patrol hours, which means a daily average of twelve hours and 133 miles. Additionally, a monthly average of seventeen patrol hours were conducted in the rubber motorboats.

All this statistical information is useful for appreciating the great effort exerted by the FPBs and their crews, but to analyze the results of the peace-keeping operation in terms of mission accomplishment, one needs to consider other aspects. First, in January 1991 various intelligence sources concurred that the arms smuggling operations over maritime routes to El Salvador were being abandoned. An evaluation completed in August 1991 reported that no more than twenty percent of the already reduced arms traffic traversed sea routes. It might be difficult to believe that the reduction was the direct consequence of the U.N. naval presence, especially considering that FPB patrols were not allowed to stop or inspect seaborne traffic. However, the permanent presence of the U.N. observers and their systematic analysis of ship movements in the Gulf furnished them with a deep knowledge of the activities usual in the area, which in turn allowed them to detect and deter improper behavior. A typical example of this deterrent effect was a case in which a suspicious vessel approached by a U.N. FPB was found throwing its load overboard.

A second indicator of success in terms of mission accomplishment was the decrease in tension among the region's different national navies. Local sources reported that the U.N. presence at sea was a key factor in avoiding maritime boundary and fishing disputes that could lead to naval confrontations with unpredictable consequences. Finally, as has been mentioned already, the most remarkable success was the full acceptance of the FPBs' presence by the individual regional navies, fishermen, and local populations in recognition of the worth of the naval mission and the prudence and impartiality with which it was executed.

It is possible, however, to identify some operational problems and difficulties that existed, particularly at the beginning of the operation:

- Initial mistrust from some countries.
- Requests to intervene in matters outside the mandate.
- Problems resulting from the internal organization of a multinational task force.
- Adaptation to unusual functions in an unfamiliar environment.

Furthermore, the ONUCA naval mission was not risk-free. The FPBs had to patrol close to contested areas where vicious fighting persisted, and both day and night had to navigate poorly charted waters. On 23 June 1991, a terrorist attack using an RPG-7 grenade was directed against the ONUCA headquarters in Tegucigalpa. Luckily, no such attack or other type of aggression was ever directed against the FPBs, their crews, or Verification Center Fonseca during the course of the entire operation.

In the end, a consideration of all pros and cons indicates that the naval peace-keeping operation was a positive factor—it served as an important catalyst that moved the Central American peace process forward and opened a broad new area of opportunity for future employment of naval units in similar operations.

Lessons and Prospects for Naval Peace-Keeping

The U.N. naval group was able to accomplish its mission with a minimum of interference in the sovereign territorial rights of the countries involved and to maintain maximum surveillance capability in its area of responsibility. The basic task of verifying the commitment of the participating parties to the region's pacification was effectively accomplished. It is clear that the U.N. naval presence was a stabilizing factor in the conflict.

Among the options that can be taken in peace-keeping operations, ships can be very useful as instruments for achieving peace in conflicts that involve maritime boundaries or fishing disputes. The relatively long period that a ship can stay on station allows it to monitor or control neutralized areas between two opposing naval forces. Ships or ships' boats can also be effectively employed in riverine areas to verify ceasefires or other such commitments that require observers to be situated aboard a waterborne platform or the putting ashore of observers in areas where rival claims are contested. In general, as the naval operations in the Gulf of Fonseca amply proved, the use of ships broadens the spectrum of instrumentalities that can be applied to peace-keeping in any conflict environment that has a maritime aspect.

On the other hand, there exist considerations that should be more completely analyzed in light of this first experience using naval units under U.N. control.

First, should a U.N. member state want to participate in or support a peace-keeping operation involving ships, it must resign itself to giving up national control of its units and accepting the risk of putting the lives and safety of its crews in foreign hands. This is a difficult but essential political decision.

This said, it was beneficial that an Argentine national acted as squadron commander ashore and that the ships' commanding officers received their orders through him in the language, terms, and with the authority of a fellow countryman—while the force was acting under U.N. control. It is important to note that peace-keeping operations do not require the same diversity of nationalities to ensure legitimacy as do operations that enforce a decision through the use of force. Therefore, the fact that the naval units are of one single state may actually facilitate an operation. This conclusion does not apply to observers, who must be of different nationalities.

Further, a U.N. member state sending ships to a peace-keeping operation should be capable of providing the appropriate logistic support. Due to the multitudinous and specific logistic requirements of each ship class and each different navy, it is almost unthinkable to ask the U.N. to act as the supplier. The agreement executed between the U.N. and the Argentine government, through which the former provided the financial means and the latter guaranteed a satisfactory degree of unit readiness, can be considered as a satisfactory solution and may serve as a good model for future peace-keeping operations.

Another interesting issue to be considered is the training—or reorientation—of combat personnel. The daily tasks performed by the FPB crews were themselves not very different from their usual routine. While it is of course necessary that crews be well trained and qualified to operate in the environment of the designated mission area, they will experience few problems in the peace-keeping operation itself. The main training effort should be directed at the commanding officer and at staff levels. These officials need to know all the peculiar aspects of the conflict, the restrictions imposed by the U.N. Security Council mandate, and as the most important issue they need to be mentally prepared to assume a different role than they are accustomed to. This statement is valid whether the officers are U.N. observers themselves or, as in the case of the Gulf of Fonseca, provide the platforms to carry them.

Another point worth commenting upon has to do with U.N. regulations. The United Nations' rules need to be flexible should it at some future date decide to use larger naval combatants in peace-keeping operations and should it want to keep operational costs down. It would be very difficult and very costly to disarm large naval combatants; the U.N. should seek other ways to monitor the use of force or it should think about using non-naval ships. U.N. color and marking requirements may also need to be simplified to avoid unnecessary costs

and delays in the event that the use of large naval combatants is desirable or necessary.

In these present times, when the international security environment permits and encourages U.N. peace-keeping, one of the main problems is the financial cost of such operations. This problem has been clearly stated by the U.N. Secretary-General, and it was an issue during the Gulf of Fonseca operations when the U.N. encountered delays and difficulties in meeting its financial commitments. This problem needs to be carefully considered before large and expensive ships are committed to peace-keeping operations. It is clear that the financial capability of the U.N. should be bolstered to allow the organization to ask for ships of its member states and to fund their use without having to depend on rich or self-sufficient states. This is a way to promote the U.N. image of impartiality, independent decision-making, and real power.

The final conclusion is that peace-keeping operations in the Gulf of Fonseca carried out by Argentine Navy units under the U.N. flag demonstrated the capability and flexibility that naval ships add to a peace-keeping mission, while also demonstrating the problems inherent in such operations. The experience the United Nations gained in peace-keeping operations with naval units in the Gulf of Fonseca will undoubtedly lead to a broader spectrum of opportunities wherein navies can be employed as agents of peace.

Notes

1. United Nations General Assembly and Security Council, *An Agenda for Peace. Preventive Diplomacy, Peacemaking and Peacekeeping. Report of the Secretary-General Pursuant to the Statement Adopted by the Summit Meeting of the Security Council on 31 January 1992*, Report A/47/277, S/24111 (New York: 1992), p. 15.
2. *Ibid.*, p. 4.
3. *Ibid.*, p. 6.
4. United Nations General Assembly, *Comprehensive Review of the Whole Question of Peacekeeping Operations in All Their Aspects*, 47th Session, Report A/47/253 (New York: 1992), p. 7.
5. United Nations, *Letter dated 5 January 1989 from the UN Secretary-General to the Foreign Ministers of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua* (New York: 1989), p. 5.
6. *An Agenda for Peace*, p. 15.
7. Following U.N. usage, "insurrectionist" is employed here rather than "insurgent."
8. Naciones Unidas, Asamblea General y Consejo de Seguridad, *Anexo: Procedimiento para la paz firme y duradera en Centroamerica*, A/42/521, S/19085, 31/08/87 (New York: 1987), p. 6. The agreement took its name from the conference at which it was concluded, known as the Esquipulas II Summit Meeting. The Summit itself was so named, though it was held in Guatemala City, because it was considered to be the continuation of an earlier summit meeting held in the Guatemalan city of Esquipulas, near the Honduran border.
9. *Ibid.*, p. 7.
10. U.N., *Letter dated 5 January 1989*, p. 4.
11. United Nations General Assembly and Security Council, *Tela Declaration*, A/44/451, S/20772 (New York: August 1989), p. 4.
12. United Nations Security Council, *Report of the Secretary-General*, S/208965 (New York: October 1989), p. 3.
13. *Ibid.*, p. 4.
14. *Ibid.*
15. *Ibid.*, p. 5.

16. *Ibid.*, p. 8.

17. United Nations Security Council, *United Nations Observer Group in Central America: Report of the Secretary-General*, S/21274 (New York: April 1990), p. 10.

18. *Ibid.*, p. 4. When it was that the number of ships was changed, or why, is unclear. Presumably the change arose from the difficulties encountered in obtaining the vessels.

19. These boats were built by Israel Aircraft Industries and were transferred in 1978 to the Argentine Navy, which rated them as "coastal patrol craft." They are 19.8 meters (65 feet) in length and 5.5 meters (18 feet) in beam, drawing 1.8 meters (5.8 feet) at 35 tons full load displacement. They are powered by two General Motors V12-71T diesels for a maximum speed of 22 knots.

20. The officers were Captain Osvaldo Linero, former commander of the Fast Patrol Boat Division in Ushuaia, and Lieutenant Jorge Sciurano, former commanding officer of a *Dabur*-class FPB.

21. United Nations, *The United Nations Flag Code and Regulations*, p. 5, pt. D.

22. *Report of the Secretary-General* S/21274, pp. 5–6.

23. *Ibid.*, p. 4.

24. Permanent Mission of the Argentine Republic to the United Nations, *Letter Addressed 18 July 1990 to the UN Secretary-General*, (New York: 1990), p. 2.

25. *Ibid.*, p. 1, pt. A.

26. The main privileges and immunities quoted in Article VI are: (a) "Immunities from personal arrest or detention and from seizure of their personal haggage"; (b) "In respect of words spoken or written and acts done by them in the course of the performance of their mission, immunity from legal process of every kind. . . ."; (c) "Inviolability for all papers and documents"; (d) "For the purpose of their communication with the UN, the right to use codes and to receive papers or correspondence by courier or in sealed bags." Subparagraphs (e) and (f) deal with privileges concerning haggage and currency exchange.

27. Report A/47/277, S/24111, p. 69.

28. United Nations Security Council, *Grupo Observadores de las Naciones Unidas en Centroamérica Informe del Secretario General del 26 octubre 1990*, S/21909 (New York: 1990), pp. 5–6.

29. *Ibid.*, p. 9.

30. *Ibid.*, p. 8.

31. U.N. Security Council Resolutions 691/91 and 719/91.

Ψ

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Admiral S.O. Makarov and Naval Theory

David R. Jones

IN THE EARLY 1990s Russian admirals have become almost commonplace in the halls of the U.S. Naval War College. Few recall, however, that they are merely following in the footsteps of Rear Admiral Stepan Osipovich Makarov (1848–1904) of the Imperial Russian Navy, who had been Admiral Stephen B. Luce's guest in the autumn of 1896. Indeed, the Russian was a warm admirer of Luce and believed that the infant Naval War College (founded in 1884) was a model worthy of emulation in his homeland. For in Makarov's view, one could expect "great exploits" only from "that fleet in which the necessary scientific knowledge and skill in the art of conducting war are to be found combined with practical training from early years in all branches of the naval profession."[1]

Today Makarov is an all but forgotten figure in the hallowed halls of Luce, Mahan, Sims, and a pleiad of other eminent sailors. Those who do recognize his name usually remember him as a pioneer of torpedo warfare during the Russo-Turkish War of 1877–1878, or as the unfortunate Russian commander who perished when his flagship struck a Japanese mine off Port Arthur in 1904. In part this is perhaps because the focus of his most widely read book was tactics, the aspect of the military arts and sciences most subject to obsolescence. Even so, matters have been somewhat different in his homeland, and Soviet sailors continued to honor his memory. Makarov's name, wrote Admiral Yu. A. Panteleev in 1951, "is inseparably linked with the history of the development of the Russian fleet," and he was its "most talented representative" in the late 1800s and early 1900s.[2] Others have agreed, including the late Sergei G. Gorshkov, who referred to Makarov as "a recognized authority in the sphere of naval tactics."[3] Cynics, of course, may suspect that these views exaggerate his reputation. Nonetheless, the fact remains that Makarov was one of the most talented and eminent sailors of his day and, in the eyes of many of his

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The views expressed are those of the writer and in no way reflect those of the Naval War College, the Department of the Navy, or the U.S. government.

contemporaries, a naval theorist who ranked with Philip H. Colomb and Alfred T. Mahan.

Sailor and Admiral

Throughout his career, as a Soviet historian recently pointed out, Makarov consistently sought to combine the realities of service with his own theoretical studies, with the result that his "practical experience gave him rich material for theoretical generalizations and conclusions."[4] Although born into a naval family in Nikolaev on the Black Sea, Makarov spent most of his youth in the Siberian port of Nikolaevsk-na-Amure, and there entered naval school in 1858. Later he participated in the deployment of Admiral A.A. Popov's Pacific Squadron to San Francisco in 1863–1864. Having been transferred to the Baltic Fleet in 1866, the young Makarov finished his training and quickly won modest fame in the early 1870s for contributions to improving the survivability of warships.

He first came to the attention of the more general public for his use of torpedo launches (i.e., cutters) against the Turks in the Black Sea during 1877–1878. Returning to the Baltic Fleet in the early 1880s, he made his first voyage of circumnavigation as commander of the corvette *Vitiaz* (August 1886-May 1889). Then on 1 January 1890, at the age of 41, he was promoted to the rank of rear admiral and until 1891 was in the post of the Baltic Fleet's junior commander, or flag officer. From 1891 to 1894 he was Chief Inspector of Artillery for the Imperial Navy and then became commander of the Baltic Fleet's Mediterranean Squadron during its deployment to the Far East (1894–1896). On his return, Makarov received the rank of vice admiral and assumed the position of senior flag officer in command of the Baltic Fleet's 1st Fleet Division. He held this post until becoming Chief Commander of the Kronstadt Naval Base in December 1899, from which he departed only to take over his fatal command of the Pacific Squadron in February 1904.[5]

Clearly, then, Makarov was no "armchair admiral." Yet despite his unbroken service with the fleet, as well as a warm family life, he found time to make widely recognized contributions to a number of technical and scientific disciplines. On the practical side, even Western sources still credit him with inventing the capped armor-piercing shell and introducing smokeless powder into the Russian navy.[6] At the same time, he presented a stream of papers before a number of scientific bodies and became a full member of the Imperial Academy of Sciences in 1893. Other scientific bodies that counted him as a member were the Russian Geographical Society, the Russian Technical Society, the Russian Association of Physicists and Chemists, and the Main Physical Observatory. Otherwise, he was the close friend of scholars such as ship designer A.I. Krylov and scientist

D.I. Mendeleev, and he published in the fields of oceanography, geography, and naval technology. His sustained interest in shipbuilding culminated during the period 1898 to 1901 in the design, construction, and testing of the powerful icebreaker *Ermak*.[7] And most significantly, as Gorshkov's comment indicates, Makarov was also known for his contributions to naval tactics, which he termed "the science of naval war."[8]

Naval historians will have noted that Makarov's career spanned a period when the rapid development of naval technologies had created considerable uncertainty about the future forms of naval warfare. In 1890 the resulting debates were invigorated by the appearance of two new theoretical works: Mahan's *The Influence of Seapower upon History, 1660–1783* in the United States, and Colomb's *Naval Warfare: Its Ruling Principles and Practice Historically Treated* as a series of articles in the *Illustrated Naval and Military Magazine*.[9] Each in its own way advanced a concept of "command of the sea" to be gained by a decisive encounter between the contending battle fleets as the primary, guiding strategic principle of naval warfare. In an age of increasing "navalism," these and subsequent works of Mahan and Colomb were translated and published in numerous foreign editions that won their authors fame and acclaim from naval men throughout the world. These works, their supporters maintained, demonstrated that war at sea, like that on land, was governed by scientifically based principles that had the same universality as the teachings of Karl von Clausewitz and, more particularly, of Antoine Henri de Jomini.[10] Since that time, the works of Mahan and Colomb, along with those of the next generations of Western naval theorists (e.g., Sir Julian Corbett and Sir Herbert Richmond) have held pride of place in the study of this period's naval theories.[11]

Tactical *Theorie* and *Praxis*

It is always tempting to speculate on the possible results of a meeting between two prominent men of any historical period—in fact, Mahan and Makarov only narrowly missed each other at Newport. The resulting discourse, had they met, might well have affected the later theories of both men, although, each having his own stubbornly held core of convictions, a confrontation might have produced more smoke than light. But unfortunately for naval historians, Mahan left the War College in 1895 and so missed meeting his Russian colleague at precisely the moment when the latter was preoccupied with translating the *Praxis*, or practice, of the Sino-Japanese War into a *Theorie* of naval tactics. At that time, as Mahan himself had admitted in 1890, "steam navies" had "as yet made no history which can be quoted as decisive" in the teaching of naval warfare, tactics included, so that theories about the "future are almost wholly presumptive."[12]

Five years later, the situation was no better: despite the upsurge of writings on naval policy and strategy provoked by Mahan and Colomb, sailors still lacked a basic, generally accepted guide to the nuts and bolts of battle tactics. In Russia, for example, this subject was more or less entirely neglected in the education of future naval officers, and the most recent formal Russian text available on the topic was still Admiral G.I. Butakov's *Novye osnovaniia parokhodnoi taktiki* (The New Fundamentals of Steam Tactics), published in St. Petersburg in 1863.[13] Some thirty years later—in February 1893—Makarov drew the Main Naval Staff's attention to this deficiency. Writing in his role of Chief Inspector of Naval Artillery to the director of the Main Naval Staff's training section, Captain 1st Rank (i.e., naval captain) N.N. Lomen, Makarov noted recent complaints about the part of the training course on "Tactical Elements of Naval Artillery" that dealt with the manoeuver of ships during naval combat. Having suggested this be updated and expanded, the admiral went on to discuss "Naval Tactics as such." On this topic he expressed his conviction "that for study these tactics must be divided up into three or more parts that embrace such various types of weapons as artillery, torpedoes, the ram, torpedo-launches, and so on." That is, the work recommended for the gunnery course should be paralleled by similar efforts in other fields so as to provide a single, comprehensive set of tactical conclusions.[14]

The moment, therefore, was more than propitious for the appearance of a general work on tactics, for both the Russian and foreign fleets.[15] Makarov himself had first shown interest in dealing with this topic in his own writings as early as 1885–1886.[16] Even so, he gave the problem his full attention only when events underlined the need for such a theoretical work—with the deployment of Makarov's Baltic Fleet Mediterranean Squadron to the Far East in 1894, and the subsequent international crisis provoked by Japan's stunning victories in the Sino-Japanese War. On arriving in the war zone, Makarov's ships joined E.I. Alekseev's Pacific Squadron under the overall command of Vice Admiral S.P. Tyrtov. With action an imminent possibility, Tyrtov found that his combined squadrons lacked any standard tactical regulations. He immediately requested that his junior colleague, Makarov, compile a set of provisional instructions to fill the gap. These Tyrtov issued as an order, under his name, on 25 April 1895.[17] In 1896 this crisis subsided and Makarov himself returned via North America to St. Petersburg. By that time he had firmly resolved to provide Russia's fleets with a modern tactical handbook that would apply the latest *Praxis* from the Far East with contemporary naval *theorie*. As a result, on the homeward trip (which included his visit to Newport), he spent what time he could snatch from other duties in converting his earlier instructions into a series of full-scale lectures.[18]

These he delivered at the end of 1896 to the Kronstadt Officers' Assembly, some six years after Colomb and Mahan had established their own reputations

as theoreticians.[19] The lectures, in turn, then became the basis for a series of four articles published from January to April 1897 in the Russian Naval Ministry's official journal, *Morskoi sbornik.* Entitled collectively "A Discussion of Questions in Naval Tactics," these appear to have been issued as off-prints in Russian and were rapidly made available in translation, in book form, to naval men around the world.[20] According to one Soviet authority, Makarov's *Discussion* was rapidly translated into English, Italian, Spanish, Japanese, and Turkish.[21] It became standard reading in such distant navies as that of Argentina and was available to officers of the United States Navy (in a translation by Lieutenant John B. Bernadou, USN) as early as 1898.[22] Subsequently, at least one American newspaper explicitly recognized Makarov's contribution to the U.S. Navy's

"'. . . I would advise that we study such esteemed works as those of Mahan and Colomb, but that we not accept that their conclusions, which are drawn from examples of the age of sail, are unconditionally true in our century of machines and electricity.'"

successes in the Spanish-American War.[23] Indeed, the immediate popularity of Makarov's work abroad demonstrates the extent to which other navies also felt the need for a manual of tactical instructions. (Since then, however, the only full-length English-language edition known to this writer is the reprint of Bernadou's translation edited by Robert B. Bathurst as a 1990 volume in the U.S. Naval Institute's series "Classics of Sea Power.")[24]

Somewhat surprisingly, in view of the book's reception abroad, the response at home was mixed. True, in retrospect Makarov is regarded in his native Russia as an "advanced" theorist whose book some four decades later Soviet authorities still considered worthy of reprinting in the midst of war with Nazi Germany.[25] Yet in 1896–1897, the lectures and four articles met with a stormy, if enthusiastic, welcome from their author's colleagues in the Imperial Fleet. This lively controversy first surfaced in debates that erupted during two public "question and answer" sessions held in Kronstadt on 21 December 1896 and 13 January 1897.[26] Prominent among the initial critics were the young Mahanian theorist N.L. Klado and the ill-fated future commander of the 1904–1905 Second Pacific Squadron, Z.P. Rozhestvenskii.[27] To some extent, Makarov used his four early 1897 articles to respond to these challenges. Nonetheless, continued criticism of his position finally forced him to pen a lengthy rejoinder in mid-1897. This appeared as a fifth and brief concluding installment in the August edition of *Morskoi sbornik.*[28]

But despite this articulate defense of his position and the lack of adequate alternative tactical manuals, the authorities withheld official approval for Makarov's text, and it remained unpublished as a book in Russia until 1904.

According to Vladimir Semenov, one of Makarov's most ardent disciples, "among us, in Russia, this book . . . was almost boycotted." That this official view was "unambiguous," Semenov argued, was clear from the fact that during his six years in naval school and two in the Naval Academy (i.e., naval war college), "I did not hear even a mention of [the book] in a single lecture. It was not even included in the list of those works which it was obligatory to include (from public funds) in shipboard libraries."[29]

The mixed reactions and official coolness that greeted Makarov's tactical *Discussion* seem explicable largely in terms of the recent conversion of many Russian seamen to the ideas of Colomb and Mahan. True, the latter were seldom mentioned by name during the initial public debate roused by the Russian's lectures. Nonetheless, the points raised by Makarov's opponents and the nature of his own replies indicate that by 1896 many of his compatriots were already influenced by the newly translated prophets of navalism and that the latters' theoretical conceptions underlay much of the debate and criticism roused by Makarov's exposition.

As matters turned out, the Russian admiral had returned to Kronstadt to launch his own theoretical work into an intellectual world just then assimilating the ideas of his well known Western colleagues. The first edition of Colomb's *Naval Warfare* had appeared in Russian translation in 1894 and had been followed in 1895 by N.P. Azbelev's translation—apparently the first foreign-language book publication—of Mahan's *The Influence of Sea Power upon History, 1660–1783.* The popularity achieved by the latter is indicated by the Naval Ministry's official publication of a second edition in 1896, followed in 1897 by a Russian edition of Mahan's *The Influence of Sea Power upon the French Revolution and Empire, 1793–1812.* In fact, there were rumors that the initial translation had been directly commissioned, if not actually carried out, by no less a personage than Grand Duke Aleksei Aleksandrovich, then the General-Admiral and Commander in Chief of the Imperial Fleet.[30]

More generally, it is small wonder that Mahan received a warm welcome in a milieu in which many ambitious officers, men like Rozhestvenskii and Klado, sought wider career horizons in an enlarged fleet. Other motives, including sincere patriotic and intellectual conviction, were also undoubtedly present. Nonetheless, a commitment to imperial expansion based on a Mahanian doctrine of sea power obviously seemed to offer many Russian sailors the chance finally to take their rightful place alongside the soldiers as equals in defense of the interests of the Fatherland. Not surprisingly, they were sensitive to any challenge to the newly established orthodoxy. They therefore immediately spotted the extent to which Makarov's inclusive view of "naval tactics as the science of naval war" implicitly undercut many of the accepted verities of the day, essentially those of Mahan and Colomb. Among the particular points in question were the

validity of being guided by allegedly unchanging "principles of war," be they tactical or strategic; the essential utility of studying naval history (e.g., the sail era) for methods of combat suitable to armored ships in the steam era; and the universality and practicality of the concept of "command of the sea" through "decisive" naval battle, as proclaimed by the new prophets of navalism.[31]

Makarov had touched upon these topics only briefly, and often indirectly, in his original lectures and first four articles. Nonetheless, his concept of tactics and of their role in developing a modern navy struck at the heart of the methodology that underlay the doctrines of Colomb and Mahan. The Russian admiral had gone beyond merely rejecting the fundamental place of immutable principles (apart from those based on common sense) as revealed through history. He had advanced the practical proposition that since the purpose of tactics (the science of naval warfare) is to win battles, one should begin "by establishing the general necessary tactical conceptions" through an investigation of "*the elements constituting the fighting strength of ships and the means of employing them most favorably in war under different circumstances,*" and not through the study of experience in the distant past.[32]

This does not mean that Makarov ignored the fact that in the process of developing tactical conceptions, the "study of history broadens the horizon of perception and determines our relations to circumstances."[33] Rather than be guided by past practice, however, he argued that the modern tactician should first examine the technologies and weapons at hand, then devise the best means of employing them. On that basis, one could then acquire the vessels (or in modern jargon, platforms) that would best utilize these systems to achieve the goals of the naval strategy, which itself accorded with a nation's policy objectives (or what he called "imperial policy").[34] Makarov "hoped that the regularly developed science of naval battle (tactics) may aid the fleet to enter upon the path of rational development." In this way one could solve, on the basis of the tactical system adopted, first the "problems relating to special branches, and so advance up to the consideration of the types of ships."[35] And given Makarov's high assessment of torpedoes, mines, and other developing technologies, navalists not unnaturally suspected that he would be less than enthusiastic about a building program centered on the expensive capital ships necessary for seizing and maintaining a Mahanian "command of the sea."

Since the admiral's exposition of his case in the first four articles is readily available to Western readers, his initial arguments need not be outlined in greater detail here.[36] By mid-1897, however, Makarov obviously felt the need for a more general reply to his critics, one that dealt directly with the above-mentioned issues. This, as noted above, is the origin of his fifth article; but while that work is still available to Russian readers, it was, unfortunately, omitted from the Western translations known to this writer.[37] For this reason it is published here, apparently for the first time in English.

In it, Makarov summarized the theoretical positions that underlay his original articles and clarified his views on certain matters; he also contrasted his opinions on strategy and his doubts about "command of the sea" with the concepts of Mahan and Colomb. Accordingly, the fifth article is in some ways the most concise statement of his own theory of naval war and the most interesting of the series. Its publication in its entirety is a preliminary step towards a planned, fuller study by this author of Admiral Makarov's contributions to the theory and practice of seamanship and naval warfare. Notes are provided to clarify references to the first four articles and to the relevant and often opposing opinions of Makarov's better-known British and American counterparts.[38]

A Discussion of Questions in Naval Tactics

by S.O. Makarov

Sufficient time has passed since my articles on *Naval Tactics* appeared in the press to permit me to assess the various opinions expressed on the different issues in question. This gives me the occasion to return once again to this subject in order to make some clarifications.

The most significant comment that I have heard concerns my view that the main business in war is a matter not of principles, but of having a sharp eye [*glazomer*, otherwise *coup d'oeil*] that helps one assess circumstances, as well as that good sense which prompts rational choices when making decisions. I am also asserting that decisions on questions of naval tactics are to be found not in the teachings of history, but rather in a study of the qualities of the weapons involved.[39]

I also recommend caution when we wish to rely on the principle of mutual support.[40] At first sight, how can one not be inclined favorably to the principle of mutual support which directs all, from the smallest to the largest, to support one another? In land warfare, this principle appears to be completely correct in everything, and one that should serve as a guide to a general [*polkovodets*] when he is making his deployments or carrying out any shift of troops. Napoleon advised that each general should ask himself several times daily how he would react if the enemy suddenly appeared on his right flank, how he would respond when he appeared on the left, and so on. All this advice aims at assuring that the principle of mutual support will be observed in the distribution of forces. Not only the general, but any commander [*nachal'nik*] must be guided by it. The military aphorism, "he who is perishing, his comrade saves," is also an expression of the principle of mutual support, but at the level of each individual soldier. Thus in its

application to land warfare, this principle is true for all, beginning with the general and ending with the soldier.

One must also consider that the principle of mutual support demands that when one launches simultaneous attacks on one or several enemy points, the attack everywhere will be conducted by detachments. In this last regard, the principle of mutual support is as widely applied at sea as on land. But in other respects this principle does not find as wide a field [of applicability] among us [sailors], since in the open sea there are no points of high ground to be held by ourselves or the enemy, and no process of deploying troops during which one must envisage the need for support for this or that unit. While it is reasonable to assume that mutual support is always necessary in all military affairs, I see great danger in giving any such general rule the form of a prescription. For if we do, faint-hearted people may use it as a justification for their inaction and advance the excuse that they could not rely on sufficient mutual support. In addition, some may interpret mutual support in the sense of one ship rendering aid to another. In times of battle, such help may be of no essential advantage and, with regard to one's own vessels, mutual support in combat should amount to a simultaneous attack on the enemy's [vessels].[41]

The conclusion to be drawn from all of this is not that we are denying the great importance accorded the principle of mutual support. Rather, it follows that sailors should employ it with circumspection, and make a clear decision as to whether or not, for us, mutual support does indeed consist mainly of making a simultaneous attack on the enemy with the aim of destroying him or of forcing his withdrawal.

For the present, I would enumerate four basic principles of naval tactics. These are, namely,

- attack with large forces part of the enemy fleet;
- attack the enemy's weak point;
- oppose the enemy with one's own strongest forces; and
- mutual support.

It is unnecessary to dispute these principles, for they are obviously true. It is also unnecessary to dispute the fact that the letter A is first in the Russian alphabet. But if I could prove that all the wisdom of science consisted in knowing the alphabetic order of the letters, then students would be given an incorrect representation of science. If I were also to spend all my time demonstrating that all military wisdom is composed of the knowledge of the four principles listed above, which in essence express one and the same rule, then in this too I would be giving an incorrect picture of [military] science.

I would suggest that if someone wishes to prove the importance of principles to everybody, he should write a whole book that reexamines all battles with the purpose of demonstrating that in all cases when one adhered to the four above-listed principles, one emerged as victor and, on the contrary, when one did

not adhere to them, then one could not win. This would be a very one-sided book. It might do well as a separate scholarly treatise, but it would make a poor textbook. For a text should equally provide discussion of the other elements involved in achieving success. Among these are courage, a knowledge of naval affairs, the ability to direct vessels and gunnery, the *coup d'oeil* of a chief, and so on. For these reasons, there can be no particular advantage to be gained by exaggerating the significance of principles.[42]

Having discussed tactical principles, I cannot ignore strategic principles. In this regard the works of Colomb and Mahan represent great contributions to naval literature. Both these works appeared simultaneously and, on the basis of data drawn from history, demonstrate the same proposition—that the main task of a fleet must be to destroy the enemy fleet with the aim of becoming master of [*ovladet'*] the sea. Both the above-named authors demonstrate by historical examples that every time one ignores this rule, one either suffers losses or cannot achieve the desired results, and that this basic principle cannot be transgressed with impunity.[43] In their opinion, its violation inevitably invites punishment. Everyone has accepted as proven the opinions of these writers, and I have as yet to see a counterargument in the published literature. Thanks to the works of these two men, therefore, a basic principle has been introduced into naval strategy which should eliminate unpredictability and give a proper stability to naval operations.

But then the Japanese-Chinese War broke out, and the Japanese admiral Ito had to decide on the plan for his operations. To be sure, he knew the principles laid down by Mahan and Colomb, and he understood full well that it would be a rational move to begin by destroying the Chinese fleet. But part of that force was to be found in two northern ports, while part remained in the south. Thanks to insufficient forces on his part and the distances involved, the Japanese admiral could not blockade all the [Chinese] ports. If he had blockaded even one of the northern ports, this would have left unprotected the operational [sea] line [of communications] over which provisions and reinforcements and military materiel were carried to the army. The Chinese, taking advantage of the operational line's vulnerability, then could have used other, unblockaded ports in South China as bases from which to dispatch weak detachments to inflict great harm on the transports. Meanwhile, a blockade of even the main ports of [Port] Arthur and Wei-ha-Wei might well lead to heavy losses, since nothing is easier than to attack a blockading fleet at night with torpedo boats. Thus the torpedo boats of the one being blockaded prevent the imposition of a close blockade and, if the blockade is not maintained intensively, the blockaded fleet may break out unnoticed and inflict damage on the [blockader's] rear.

Whether it was these considerations or others that Ito had in mind, I do not know. But I do know that he decided to ignore the principles of Mahan and Colomb. Instead, he set himself the task of supporting the army of Field-Marshal Yamagato, and therefore in his movement from Korea to China, he sailed along the coast. In this manner Ito kept it [i.e., the army] supplied by sea with all necessities at its place of deployment, and he made his deliveries continuously at landing points which had been selected in accord with the movements of the army. When a Chinese squadron left its port, Ito utterly defeated it. But this done, he did not attempt to entice its remaining undamaged vessels from their port. Instead, he continued to act as earlier, as long as Port Arthur had not been captured from the land. With the fall of Port Arthur, Ito then might have concentrated all his forces against Wei-ha-Wei, which sheltered the Chinese fleet, in order to destroy it. But he preferred to adopt another plan by which the fleet convoyed an amphibious force there and supported its landing. Then, when the troops put ashore had established a land siege of Wei-ha-Wei, Ito opened a bombardment from the sea and destroyed part of the vessels by a torpedo attack to prevent the squadron from departing the fortress before its fall. It seems to me that in the given circumstances (e.g., considering the poor condition of the Chinese fleet, the strategic considerations imposed by the overall war plan, etc.), that Admiral Ito took the correct course, that his calculations were justified, and that the remarkable success of the operations confirmed this. It is thus impossible to criticize him [for his departure from principle]. "One does not judge a victor"—this expression is absolutely true. No outsider can possibly weigh all the circumstances, and therefore he cannot judge correctly. If success is the result, then this signifies that the overall totality of circumstances have proven to be in accord with the calculations as made earlier.[44]

I personally am not a proponent of the servile worship of principles. In my opinion, Mahan and Colomb merely demonstrated that with sail fleets, one first sets out to master the sea, and that in the age of sail the sea was found to be in the complete power of him who acquired it [i.e., such mastery]. To what extent this accords with present material means—this is the question. Earlier, ships could remain for a half year at sea without renewing their reserves, and could operate at great distances from their main bases. Contemporary vessels, however, are forced frequently to renew their supplies of coal. Therefore, the question of [coaling] stations and secondary bases now plays a greater role than before; a breakout to conduct operations in the [enemy's] rear is easier than before; and a belligerent squadron now can put to sea and, being stronger than the enemy, force his main forces to remain shut up in his ports. In a certain respect, this squadron will command the sea. But if the enemy has support points in this sea, then one's position (as was indicated in Section 10)[45] will become complicated; and if—apart

from that—mastery of the sea is to be exercised far from one's base, then communications with it [i.e., the base] cannot be guaranteed. On the basis of what has been said above, I would advise that we study such esteemed works as those of Mahan and Colomb, but that we not accept that their conclusions, which are drawn from examples from the age of sail, are unconditionally true in our century of machines and electricity.

Apart from the main principles there are still the secondary ones, which we call the rules of tactics. In my opinion, we need to search for these rules not only in history, but also in the detailed study of the capabilities of our weapons; that is, of modern warships. The reason why I am proposing such a highly unpopular idea is that the material aspect of the fleet has changed completely. Tactics depend on weapons, but weapons have changed so utterly that history can provide almost no lessons on tactics whatsoever. But meanwhile, the lovers of the grandiose phrase constantly refer to "firm historical foundations," and they so abuse this phrase that many have begun to actively search for tactical rules in history. But we must question just how permissible this really is.

Let us suppose that we wish to decide the tactical question as to whether one should prefer fair or stormy weather for a naval battle. We turn to history. Nelson, whose crews comprised storm-hardened veterans who had spent long periods at sea, nonetheless preferred fair weather for battle. This was because the guns of his day did not even have sights and were aimed by moving the body of weapon, while the properties of the charge used in firing were so unpredictable that there were great variations in the rate of fire. Therefore, firing from a tossing deck was problematic to the highest degree. Apart from all this, in a fresh wind it was difficult for the attacker to hold his position close to his enemy, and he consequently was forced to fire at long range. For these reasons, Nelson preferred to fight in fair weather, since he considered decisive battle was impossible in stormy weather, while an indecisive one did not even begin to count.

Nelson's views are supported by a host of historical examples. Consequently, if one bases oneself on historical examples, than one must today consider battle in stormy weather to be unsuitable. Whereas conditions on contemporary ships are not much different than before, they still give rise to a different tactical regimen. Although artillery is much improved, today it is still fixed to a tossing platform and it is difficult to score a hit. But now with engines, one can hold one's position at the desired range. Yet in the tossing waves, an ironclad exposes its unarmored hull. In this way, the ironclad loses part of its advantage. True, torpedoes are less accurate in a choppy sea than when there are no waves. Even so, it is still possible to count on scoring hits with torpedoes at a close range. From this it follows that battle in stormy weather may be very decisive, and that small vessels with a strong torpedo armament should, in stormy weather, seek battle with large armoured

ships. If the ironclad is tossing, then it has almost no chance whatsoever of scoring a hit with its guns on the torpedo boat while, on the other hand, the torpedo boat may hit the larger ship with a torpedo. From this emerges the tactical proposition that in stormy weather, small vessels are suitable for attacking larger ones, and that detachments made up of small vessels can usefully seek battle with a squadron consisting of large ships.

Let us open up another question: that of the range at which one should open fire. Earlier, eminent naval commanders [*flotovodtsy*] would not permit fire to be opened until the ships had closed to pistol range. According to the Regulation of Peter the Great, a captain who opened fire beyond the range of his guns was to be sentenced to death. This is not an indirect suggestion that there was some general desire to open hasty fire. The causes for it [i.e., hasty fire] were many, but chief among them were the crude state of artillery and the difficulties in handling a sail warship when the men were standing at arms. At present, however, the handling of a moving vessel does not depend on the men who are manning the guns, and the guns themselves are significantly improved with regard to both loading and aiming. It is inappropriate for large warships to close to within pistol range, even in order to give battle with torpedoes, and therefore the old rule of preferring battle at close range cannot be accepted unconditionally today. In several cases, and for several classes of ships, it is appropriate to open fire at long range.

With regard to formations, the introduction of ramming tactics brought recommendations for either the line facing front, or a wedge. This was as if to imitate the formation used in combat by Roman warships with the ram. But at that time there were no guns. But now that there are guns, it follows that by presenting one's front, one will be unable to make full use of all of them.

At present, the dominant opinion is that the best battle formation is to steam in line ahead. One could say that we now have returned to the column-in-line, which has its own historical tradition. But if we have returned to this formation, it is not because of the fact that in the epoch of the great wars it was the dominant formation, but because common sense suggests that this formation is the one most suitable for contemporary warships.

Of course we need to study history. But we must learn from it how people have constantly pursued their goals, and how circumstances can present a countless host of combinations. History also teaches that military and naval affairs are highly complicated, and that mastery of all the most important principles still does not make for an experienced naval man. For this one must be practiced in recognizing circumstances since, as Napoleon says, in war, circumstances command. Because of this, and the great variations in circumstances, one must study history.

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Permit me to touch on the comments made in an article in a military journal, which complained that I said nothing about the rear or bases. The radical difference between a land army and a naval army (that is, a squadron) consists of the fact that the rear is the weak side of a land army, but not of a squadron. The rear of an army comprises its train, which sustains an army when it operates away from its bases. If an enemy outflanks an army and falls upon its rear, he places the army in a very difficult position. Since a vessel carries its baggage in its hold, a battle squadron does not have a rear upon which the enemy can fall,[46] which means a battle squadron cannot be placed in a similar situation. We may call the sea, which provides it with communication with its base, the squadron's rear. For example, if a squadron is operating in the Korean Straits, the Sea of Japan—which separates the squadron from Vladivostok—must be recognized as its rear. Yet this will be a strategic rear, or rather the rear of the theater of war, and not that of the field of battle. It is to cover this rear and guarantee the squadron's communications with its base that one must master [*vladet'*] the sea. This issue, in equal measure with the question of supplying the squadron, is a matter for strategy, and therefore I did not touch upon it in my discussions. Perhaps, however, for people who are really not conversant in naval matters, I should have explained briefly why I did not speak about the rear and base in my *Discussion of Questions in Naval Tactics.*

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Also meriting attention is the principal question that some dispute: should tactics, as I affirm, attempt "to indicate the means with which to win battles?"[47] It seems completely obvious to me that tactics are not written for the sake of writing tactics, but for business; and that in battle there is only one business, and that is to defeat the enemy. Tactics should give instruction in how to do that. Tactics cannot be so perfected that they can give precise instructions for every occasion, but they can provide much that is useful as advice. And when even this is beyond their ability, they are limited to studies that examine in each case how a decision was reached in accord with the relevant circumstances. But in any case, everything that tactics says, either directly or indirectly, provides instruction in how to win a battle.

On the resolution of this basic question depend many others. Once we recognize that tactics are "the science of battle," and that its aim is to indicate the means for winning in battle, then we must consider that everything that serves as a means for winning in battle cannot belong to any other science than that of tactics. For example, tactics now are concerned with the question of "the moral element," even though this issue is in itself utterly unique. If at some time a special

science of "military psychology" is created, then the question of the moral element will be specially examined by it. At that point tactics can stop dealing in detail with this matter and simply adopt the final conclusions of "military psychology." With regard to the fleet, one can say that at present, evolutions and signal means are included in tactics only insofar as these two special subjects have not been hived off as special sciences, or not brought into the already existing naval sciences. I assign the means of destroying telegraph cables to tactics only because it has not already been included in the [existing] course [of study] on naval practice, and so on.

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In my *Discussion*, when citing the opinions of [recognized] authorities on the significance of the moral element in the army, I said that this element has even greater significance in the fleet than in the army.[48] This proposition has also drawn remarks from writers in the ground forces. I must stress here that I do not want to suggest that the moral element has little significance in land battle. I value very highly the mutual respect between people in the different arms of the services, and I can see no useful purpose whatsoever in attempting to prove in the press that land warfare is not as difficult as those involved claim it to be. To say this would be to attempt to destroy the respect accorded the troops, and I consider any desire to impair the respect shown the army, the fleet or their units to be unworthy of the pen of a military or naval writer. I repeat, I have no intention of playing down the difficulties of wars on land, but it is necessary to keep in view that to go by means of an engine is in no way easier than to go by foot. And if one wishes to advance in this last manner, and if self-control is a necessity for so doing—then it is just as necessary for getting underway by a machine.

The engine sections of contemporary vessels are closed, and the stokeholds on some warships are even sealed hermetically, which means that air is driven into them as a forced draught. The men who work below deck not only do not see what is happening, but they do not even see God's good light. Meanwhile, they can hear the crash of gunfire, and they can hear distinctly the explosions of torpedoes which, even if they are distant, cause the ship's body to shudder. They will be in a state of continual anticipation, for at any minute a torpedo may strike that thin hull separating them from the sea so that, in just a few seconds, the whole section in which they are working will be flooded by water. Even more apparent is the danger present in the form of steam pipes and boilers, which by now are operating at terrible pressures. If an enemy shell smashes a steam pipe, then scarcely anyone will survive in the section in which this damage occurs. The example of the armored ship *Brandenburg* showed that out of thirty men, not one was saved.

One must visit the engine room of a modern vessel that is under full steam in order to obtain even a faint idea of what this is like, and of the kind of nerves one needs to stay calm when the minute-by-minute dangers of being drowned by water, or scalded by steam, are combined with the usual difficult circumstances of the job. But despite all this, all these men must carry out their tasks coolly if the warship is to maintain the required full speed in battle. They must remember to grease every part or else one of them may seize up and force the engine to shut down. They must vigilantly watch over the supply of water to each of the boilers for, on some ships, these are made of up to fifty components and, if water somehow leaks out, the boiler will explode. Meanwhile, they must simultaneously transfer coal from the bunkers at a rate of up to a thousand *puds* [eighteen tons/16,380 kg] an hour on large ships. Apart from all the rest, all the work places must be lighted. Since oil lamps go out even with explosions that, because of their distance, are quite harmless, electric lighting now has been adopted. Yet this means one must also keep special dynamos in operation, and make sure that they are working correctly.

The above account gives only a partial picture of what must be done in order to operate the machinery. But in battle even this is not enough: one must also operate one's guns, and this involves coordinating the supply of shells and cartridges on electrified elevators with the loading and firing. In a squadron battle the distance from targets, and the nature of the targets themselves, will be changing very rapidly. This means that all the organs involved in directing the guns' fire must work calmly and coolly while measuring and passing on ranges. Otherwise, the guns may do more harm to one's own warships (which will be nearby) than to the enemy's. Furthermore, the whole organization that manages the torpedo arm must operate correctly. To this we must add as well the demands that the whole ship be successfully ventilated, that the large guns' hydraulics work, and that above all else, absolutely cool heads be maintained by those directing the maneuvers of the warship itself.

All that has been said above demonstrates that it is easy to talk of movement by machinery but that it is not so easy to do this in combat conditions, and that for the successful operations of a ship in combat, every member of the crew must display the highest moral qualities. No one doubts that the highest moral qualities are demanded in the army as well, and as to the question of where these qualities must be higher, in the army or in the fleet—it is an idle one.

Notes

1. S.O. Makarov, *Discussion of Questions in Naval Tactics*, trans. John B. Bernadou, intro. and notes R.B. Bathurst (Annapolis, Md: U.S. Naval Institute, 1990), pp. 18–19. As Bathurst points out in a note (p. 18), it would be 1975 before another Russian admiral visited the Naval War College.

All dates in this article are given in accord with the Russian "old style"; that is, in accord with the Julian calendar. They are therefore twelve days behind Western dates throughout the 1800s.

2. Yu. A. Panteleev, "Vydaiushchiisia russkii flotovodets S.O. Makarov" (Distinguished Russian fleet commander S.O. Makarov), *Russkoe voenno-morskoe iskusstvo: Sbornik statei* (Russian naval art: collection of articles), ed. R.N. Mordvinov (Moscow: 1951), p. 283.

3. S.G. Gorshkov, *Morskaia morshch' gosudarstva* (Seapower of the state), 2nd ed. (Moscow: 1979), p. 133. Also see the essays in A.I. Dubravin, ed., *Deiatel'nost' vitse-admirala S.O. Makarove v sudostroenii* (The activity of Vice Admiral S.O. Makarov in shipbuilding) (Leningrad: 1977).

4. P.A. Zhilin, ed., *Russkaia voennaia mysl' konets XIX-nachalo XX v.* (Russian military thought from the end of the 19th century to the start of the 20th) (Moscow: 1982), p. 140. A reader will obtain some idea of the very limited *Praxis* available for sailors in the steam era before 1904 by glancing through Michel Merys (G. Blanchon), *La Guerre navale moderne: de Lissa à Tsoushima* (Modern naval war: from Lissa to Tsushima) (Paris: 1905).

5. For general accounts of Makarov's career, see such standard biographies as S.S. Semanov's *Makarov* (Moscow: 1972), and B. Ostrovskii's *Stepan Osipovich Makarov, 1848–1904* (Moscow: 1951). The most detailed account is his friend F.F. Vrangel's *Vitse-admiral Stepan Osipovich Makarov. Biograficheskii ocherk* (Biographical sketch), 2 vols. (St. Petershurg: 1911–1913).

6. Ian Hogg and John Batchelor, *Naval Gun* (Poole, UK: 1978), p. 101; R.B. Bathurst, "Introduction," in *Discussions* (1990), p. x.

7. Makarov, *Dokumenty*, 2 vols. (Moscow: 1953–1960), v. 2, pp. 705–713, provides the most complete hihliography of Makarov's puhlished works availahle. On his multifaceted activities, see A.D. Dobrovolskii *Admiral S.O. Makarov—puteshestvennik i okeanograf (S stoletiiu so dnia rozhdeniia)* (Traveler and oceanographer [on the hundred anniversary of his birth]) (Moscow: 1948); A.I. Dubravin, "Stepan Osipovich Makarov—uchenyi, flotovodets, okeanograf" (Student, fleet commander, oceanographer), *Zapiski po gidrografii* (Hydrographical notes), (1969), no. 1, pp. 54–57; and the essays in A.I. Duhravin, ed., which also contains a useful hihliography, pp. 248–53.

8. Makarov, *Discussion*, p. 35.

9. These were republished in book form in 1891. Citations from these works below are from the "American Century Series" edition of A.T. Mahan, *The Influence of Seapower upon History, 1660–1783*, intro. L.M. Hacker (New York: Hill and Wang, 1957), and the U.S. Naval Institute's "Classics of Sea Power" edition of P.H. Colomh, *Naval Warfare: Its Ruling Principles and Practice Historically Treated*, 2 vols. (Annapolis, Md.: U.S. Naval Institute, 1990).

10. On Mahan and Colomh, see D.M. Schurman, *The Education of a Navy: The Development of British Naval Strategic Thought, 1867–1914* (London: Cassell, 1965), chaps. 3 and, 4. The influence of Jomini on Mahan is outlined in B. Colson, "Jomini, Mahan et les Origines de la Stratégie maritime americaine," in H. Coutau-Bégarie, ed., *L'Evolution de la Pensée navale* (The evolution of naval thought) (Patis, 1990), v. 1, pp. 135–52. For a general introduction to Clausewitz and Jomini, see Richard M. Swain, "'The Hedgehog and the Fox': Jomini, Clausewitz, and History," *Naval War College Review*, Autumn 1990, pp. 98–109.

11. Schurman, chaps. 5–8.

12. Mahan, *Influence*, p. 2.

13. On the neglect of tactical studies in Russia, see G.M. Gel'fond, et al., *Tam za Nevoi moria i okeany. Istoriia Vysshego voenno-morskogo ordena Lenina, Krasnoznamennogo, ordena Ushakova uchilishcha imeni M.V. Frunze* (Out beyond the Neva to the sea and the ocean: the history of the M.V. Frunze Order of Lenin, Red Banner, Order of Ushakov higher naval school) (Moscow: 1976), pp. 115–16. Butakov and his text are discussed in A. Ya. Lur'e, "Admiral Grigorii Ivanovich Butakov," in Mordvinov, ed., pp. 234–43.

14. Makarov, *Dokumenty*, v. 1, Document 37, p. 59.

15. Other naval writers, of course, also recognized the need for a standard tactical manual. In 1894, for example, Commander William Bainbridge-Hoff, USN, published his *Elementary Naval Tactics*, a work whose approach generally agreed with that adopted by Makarov; see *Discussion*, pp. 36–37.

16. See, for example, "V zashchiyu starykh bronenostsev i novykh usovershenstvovanii" (In defense of old battleships and new improvements), *Morskoi shornik*, no. 2, 1886, pp. 37-63 (*neof.*, or "unofficial" section) and no. 3, pp. 1–35 (*neof.*). In this unsigned account of a naval war between two imaginary nations in the South Pacific, he was drawn into tactics hy his continuing interest in the problems of making vessels more difficult to sink. He returned to considering seriously the elements comprising a new body of naval tactics with his "Razbor elementov, sostavliaiushchikh hoevuiu silu sudov" (An analysis of elements constituting the combat power of ships), which appeared in *Morskoi shornik*, no. 6, 1989, pp. 1–106 (*neof.*). In this he followed the method outlined in his letter of 1893, cited above.

17. On the hackground to the compilation of Makarov's instructions see Ostrovskii, *Stepan Osipovich*, pp. 171–72, 184, and Makarov, *Dokumenty*, ii, nos. 88–89, pp. 169–174. The text of this order itself is given in *Dokumenty*, no. 90, pp. 175–83, and in Appendix IV (Prilozhenie IV) of Makarov's *Razsuzhdeniia po voprosam morskoi taktiki*, published in two parts in January-February 1916 as a supplement to *Morskoi sbornik* ("Bihlioteka Morskogo Sbornika") (Morskoi sbornik library), v. 2, pp. 412–22.

18. His work on *Discussion* during this period is chronicled in the diary extracts published in Makarov, *Dokumenty*, v. 2, no. 89, pp. 170–75; no. 91, pp. 183–89; and no. 116, p. 267. Also see the extract published in S.S. Semanov, *Admiral Makarov*, (Moscow: 1971), pp. 150–51. The genesis of Makarov's work was described by the Kronstadt journals *Kronstadtskii vestnik* and *Kotlin* on 1 December 1896; see Makarov, *Dokumenty*, v. 2, nos. 120–21, pp. 271–75.

19. See the notice from the Kronstadt newspaper *Kotlin* (3 December 1896) in Makarov, *Dokumenty*, v. 2, no. 122, p. 275.

20. See *Morskoi sbornik*, no. 1, 1897, pp. 17–84 (*neof.*); no. 2, 1897, pp. 1–63 (*neof.*); no. 3, 1897, pp. 1–58 (*neof.*); and no. 4, 1897, pp. 1–58 (*neof.*).

21. Semanov, *Makarov*, p. 154.

22. *Ibid.*, pp. 172–73; Semenov, *Admiral Stepan Osipovich Makarov* (St. Petersburg: 1913), pp. 30–31.

23. S.O. Makarov, *Discussion of Questions in Naval Tactics*, trans. J.B. Bernadou (Washington: Office of Naval Intelligence, 1898). For an appreciation of the utility of this text in training the United States Navy before the war with Spain, see the comments of the *New York Evening Post*, 7 April 1900, as reported in the Kronstadt newspaper *Kotlin*, 19 April 1900, as reprinted in S.O. Makarov, *Dokumenty*, ed. V.S. Shlomin (Moscow: 1960), v. 2, p. 277.

24. Makarov, *Discussion*, trans. Bernadou, intro. and notes Bathurst. Since this is the most readily available edition, all quotations are from it, but occasionally modified slightly after comparison with the Russian edition of 1916.

25. S.O. Makarov, *Voprosy morskoi taktiki i podgotovki ofitserov (Razsuzhdeniia po voprosam morskoi taktiki)* (Issues of naval tactics and officer training [Discussion on questions of naval tactics]), 6th ed. (Moscow: 1943).

26. For accounts of these meetings, see "Prilozhenie I: Preniia po voprosam, vozbuzhdennym na lektsiiakh vitse-admirala Makarova po morskoi taktiki" (Appendix I: Debates on issues raised in Vice Admiral Makarov's lectures on naval tactics), "Biblioteka Morskogo Sbornika 1916," v. 2. pp. 353–74.

27. In 1904, for example, Klado was to proclaim: "L'importance de la maîtrise de la mer est un fait aujourd'hui presque universellement reconnu. Malheureusement, au commencement de cette guerre [avec le Japon], il n'en fut pas ainsi . . .," ("The importance of mastery of the sea is an almost universally recognized fact today. Unhappily, at the beginning of this war [against Japan] it was not so. . . .") N.-L. Klado, *La Marine russe dans la Guerre russo-japonaise* (Paris-Nancy: 1905), p. 46.

28. S.O. Makarov, "Rassuzhdeniia po voprosam morskoi taktiki," *Morskoi sbornik*, no. 7, 1897, pp. 1–12 (*neof.*).

29. Semenov, pp. 30–31. On the reception that greeted this work and its delayed publication, see Semanov, *Makarov*, pp. 172–75.

30. R. Kolomb, *Morskaia Voina* (R. Colomb, Naval warfare) (St. Petersburg: 1894); A.T. Mekhan, *Vliianie Morskoi Sily Na Istoriiu, 1660–1783* (A.T. Mahan, Influence of sea power upon history, 1660–1783) (1st ed. St. Petersburg: 1895; 2nd ed. St. Petersburg: 1896); A.T. Mekhen, *Vliianie Morskoi Sily na Frantsuzskuiu revoliutsiiu i imperiiu, 1793–1812* (A.T. Mahan, Influence of sea power on the French revolution and empire, 1793–1812) (St. Petersburg: 1897). While some Russian officers, Makarov included, had the linguistic abilities to read Mahan in English or in a serialized French version that appeared in the journal *Revue Maritime et Coloniale* from 1894 through 1896, it seems unlikely that he would have obtained a wide audience before publication of the Russian edition. For the publishing history of Mahan's works, see John B. and Lynn C. Hattendorf, comps., *A Bibliography of the Works of Alfred Thayer Mahan* (Newport, R.I.: Naval War College Press, 1986). On the connection with Aleksei Aleksandrovich, see Fred T. Jane, *The Imperial Russian Navy*, 2nd ed. (London: 1904), p. 705.

31. In addition, Makarov also stressed the importance of the proper training of ratings for naval combat, and of maintaining the highest morale possible. His contention that the morale factor was more important at sea than on land also aroused considerable criticism.

32. Makarov, *Discussion*, pp. 40, 32, 35, 44. (Italics original.) As he points out (*Discussion*, p. 40), he himself had begun doing this in his earlier article "Razbor elementov."

33. *Ibid.*, p. 32.

34. *Ibid.*, pp. 37–38.

35. *Ibid.*, p. 28.

36. *Ibid.*, chap. 2, "The Position of Naval Tactics in the Category of Naval Sciences," pp. 29–44.

37. This fifth article was republished in its entirety in L.G. Beskrovnyi, ed., *Russkaia voenno-teoreticheskaia mysl' XIX i nachala XX vekov* (Russian military-theoretical thought in the 19th and the start of the 20th centuries) (Moscow: 1960), pp. 406–414.

38. On this issue see S. Skriagin, "Razbor truda Makarova v sviazi s rabotami Mekhena" (Analysis of Makarov's work in connection with the works of Mahan), *Morskoi sbornik*, no. 10, 1897, pp. 1–44 (*neof.*).

The Russian text used here is to be found as "Prilozhenie III" in "Biblioteka Morskogo Sbornika, 1916," ii, pp. 401–411. The only editorial liberty taken is to break up some of Makarov's excessively long paragraphs for easier reading.

39. In this regard, at the close of his earlier series of articles Makarov had stressed that "in the conduct of war we should put more trust *in our common sense than in military precedents, which are completely insufficient*" (italics his); see *Discussion of Questions in Naval Tactics*, p. 300. Also see his earlier discussion on pp. 41–44. (Since this Naval Institute edition is the most readily available, all quorations will be taken from ir, though the translations differ slightly from the Russian rext of the 1916 edition.)

This contrasts with Mahan, who gave both history and theoretical principles a much more important place in his theories. History, he wrote, "illustrates the principles of war by the facts that it transmits," while "battles of the past succeeded or failed in conformity with the principles of war." (*Influence*, pp. 11, 8.) Colomb agreed and argued from the late 1500s on we "can easily trace the growing laws of naval war, unalterable and immutable if it is to be carried on with a view to the certain advantage of either side, and thereby a speedy conclusion." (*Naval Warfare*, v. 1, p. 39.)

40. Makarov had asserted that this principle "must be applied with caution to the circumstances of war at sea" and pointed out that although Villeneuve had "declared that mutual support of ships was the chief end in view," at Trafalgar he lost "to an antagonist who always acted on the principle that it is necessary to trust the fate of some part of the fleet to chance in a sea fight." (*Discussion*, pp. 32–33.)

41. This repeats Makarov's comments in *Discussion*, p. 33, although Bernadou's translation is somewhat ambiguous. The Russian phrase is "*druzhnogo napadeniia na vraga*," which he translated as "rhe simultaneous attack of an adversary" rather than "*on* an adversary."

42. The relevance of these views for the teachings of Mahan and Colomb, as indicated above, is quite plain.

43. Here Makarov obviously is consciously echoing Colomb, who in the introduction to his first edition wrote "that there are laws governing the conduct of naval war which cannot be transgressed with impunity." (Colomb, *Naval Warfare*, v. 1, p. 3.)

44. Not surprisingly, Mahan and Colomb rejected this type of analysis. When asked in 1895 whether developing techniques of torpedo warfare had caused him to change his views, and specifically whether "close" blockades were still possible, Mahan replied with a resounding affirmative and insisted thar the new weapons had "simply widened the question, not changed its nature." (A.T. Mahan, "Blockade in Relation to Naval Srrategy," Naval Institute *Proceedings*, November 1895, p. 857.)

Colomb agreed, and later editions of *Naval Warfare* argued that the Sino-Japanese conflict "illustrates to a remarkable degree the characteristics of naval warfare, and, in almost the highesr degree, its leading principles. . . ." Regarding the "question of what is meant hy command of the sea, what results from its gain or loss, and how it is gained or lost," he asserted, "are [*sic*!] presented to us in the Korean [Sino-Japanese] War almost as if it were a designed experiment ro strengthen our reliance on the teaching of history." As for the influence of torpedoes, he concluded "that the Korean War gives us no reason for believing that any of the new inventions have modified the leading principles of Naval Warfare." (Colomb, v. 2, pp. 498, 517.)

45. This refers ro Section 10 of his original series of articles; see "10. Some irregularities in the conception of what constitutes command of the sea," in Makarov, *Discussion*, p. 28. This brief section is the only occasion in these articles on which Makarov referred explicitly to Mahan and Colomb. Here he defines "command of the sea" in their sense as meaning "that the fleet commanding the sea constantly and openly plies upon it and that its heaten antagonist does not dare to leave its ports." But, he suggests, the recent development of torpedo and other technologies had introduced "inconsistencies" into this picture since now one might ask if "he properly understood thar a victorious fleet [which commanded the sea] should protecr itself from the remnant of the vanquished enemy."

46. By this Makarov means an immediate tactical rear, not a larger strategic rear.

47. In *Discussion*, p. 30, Makarov had opened his comparison of naval and land tactics with the assertion: "The purpose of tactics is to indicate the methods of winning a battle."

48. Like the military writer M.I. Dragomirov (1830–1905), Makarov was a follower of General A.V. Suvorov (1730–1800) in stressing the vital role of morale and *élan* in battle. He devoted chapter II of his *Discussion* to the "Influence of Morale upon Success in Battle." There (p. 47) he noted that the "morale element possesses greater significance in naval war than war on land." He briefly explained this by pointing out that on land, "action begins gradually and people have time to look at one another," but that at sea, "with the enormous speeds that obtain at the present day, intervals of time are not to be counted in hours, but by seconds. Put the helm over five seconds earlier and you ram your antagonist; five seconds later, and he rams yon." Not surprisingly, military writers (e.g., N. Orlov in *Russkii invalid* and A. Puzyrevskii in *Razvedchik*) tended to regard this as a slight to the valor of their service.

Confronting Technological and Tactical Change

Allied Antisubmarine Warfare in the Last Year of the Battle of the Atlantic

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THE RECALL OF GERMAN U-BOAT WOLFPACKS from the central North Atlantic at the end of May 1943 ended the most costly phase of the shipping war for the Allies. Never again would the U-boats inflict dangerously high shipping losses.[1] The naval war remained bitter, however, for the U-boats refused to give up, turning instead to new technology and new tactics. Right to the end of the war, they continued to present a plausible threat, one that caused concern in high Allied circles. Indeed, by January 1945 the British Admiralty's First Sea Lord was moved to warn that the "high shipping losses which may occur during the first half of 1945 may well prejudice the maintenance of our forces in Europe. . . ."[2]

The ensuing struggle led to a confrontation between improvised technological improvements and tactical changes on the part of the U-boats and the operational and tactical adaptations produced in reply by Allied antisubmarine warfare (ASW) forces. This last phase of the Battle of the Atlantic was fought out for the most part in the confusing and difficult shallow waters around the coasts of the United Kingdom and off the east coast of Canada. This campaign provides insights into how new and unexpected initiatives by an enemy can be dealt with even when no technological solutions are readily at hand. It also

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The assistance of Dr. Roger Sarty, Senior Historian at the Department of National Defence's Directorate of History, Ottawa, Ontario, in the preparation of this article is gratefully acknowledged.

illustrates the difficulty that both submarine and antisubmarine forces encounter when operating in the challenging environment of shallow water.[3]

Improvements in Submarine Technology

Somewhat paradoxically, the new challenges to Allied trade defence forces in 1944–1945 were born of the latter's very success with previous antisubmarine countermeasures. In desperation, the Germans had been forced to adopt new tactics. These new strategies featured submerged penetration of focal areas of trade by individual boats, which then lay in wait for targets of opportunity, made sudden attacks from ambush, and then immediately began extreme evasive manoeuvres that continued for prolonged periods. Unlike the massed "wolfpack" attacks against convoys that had been the hallmark of U-boat operations in 1942–1943, these so-called "static" tactics seldom caused severe Allied losses, because U-boats spent far more time avoiding detection than aggressively seeking opportunities to attack.[4] Yet their new success in avoiding detection in areas where the Allies had previously been able to detect and destroy them caused concern in some quarters of the Allied high command.[5] As 1944 drew to a close, this apprehension grew, because it appeared that the U-boats were not only mastering the art of evading antisubmarine forces but were actually becoming effective again in their attacks.[6]

The new equipment that allowed this dramatic change in U-boat tactics was the schnorkel.[7] This was a comparatively simple device that provided the boats enough air to operate their diesel engines while submerged.[8] Little more than a tube about as long as the submarine's periscope, the schnorkel greatly reduced a U-boat's vulnerability to searching Allied forces because its small head was far less conspicuous than a submarine's conning tower. Moreover, travelling slowly and carefully, the U-boat needed to use the schnorkel only three to five hours in every twenty-four.[9] Most U-boat commanders prudently schnorkeled at night to avoid visual detection of the smoke produced by the submarine's diesel engine. In addition, the head of most schnorkels was fitted with a detection device that gave warning of the approach of Allied radars.[10] Since the U-boat was already submerged when using its schnorkel, an alert crew could usually dive deep and escape before an attack could be launched even if an Allied radar operator did distinguish the tube's small echo from the random returns provided by ocean swells or flotsam and jetsam.

Schnorkel-equipped U-boats were sent into the English Channel during the summer of 1944 to attack the heavy flow of shipping that sustained the Normandy beachhead; their commanders learned, to their surprise, that they could operate in the most heavily defended waters.[11] The Allies had anticipated an aggressive response to the June 1944 invasion and had prepared a

comprehensive defence-in-depth of the Channel. Massed defending forces devastated those U-boats not yet equipped with schnorkels (at the time, a majority) but found schnorkel-equipped submarines a frustratingly difficult opponent.[12] Although shipping losses remained comparatively light, schnorkel-equipped U-boats regularly prowled in the vicinity of the shipping routes to the beachheads. Even when discovered, these submarines proved elusive targets, and, in view of the immense concentration of ASW forces, remarkably few were destroyed.[13]

In addition, the Allies (thanks to decryption of high-level German message traffic, an intelligence source known as "Ultra") were acutely aware of the possibility of entirely new U-boat designs.[14] The Type XXI and Type XXIII boats were the first conventional submarines capable of rapid underwater manoeuvering.[15] Although they could sustain high-speed manoeuvers for perhaps only an hour or an hour and a half, these submarines were the most menacing known at that time.[16] German authorities assigned the highest priority to the production of these new types in July 1943, but the first few became operational only as the war ended.[17] The potential impact of these vessels on the transatlantic logistics of the Allied campaign in Europe remains one of the war's most interesting subjects for speculation; fortunately for the Allies, however, the war was fought with older (Type VII and Type IX) U-boats.

The only remaining area where these latter boats could achieve success was in the coastal zones near ports and the focal points of shipping routes.[18] Although both Allied and German naval officers considered in late summer 1944 that a return to open-ocean wolfpack operations would be the only way in which Allied shipping could be interdicted effectively, and though such tactics might arguably have been practical using the new submarines, the Germans realized that they were impossible with the Types VII and IX U-boats.[19] The Germans were encouraged by the schnorkel-equipped submarine's ability to operate in such heavily defended coastal waters as the English Channel but were acutely aware that simply surviving was not enough.[20] Shipping had to be destroyed if the apparently inexorable Allied advance was to be slowed, and too few ships were being sunk. Still, the schnorkel-equipped boats had just garnered the greatest success that German submarines had enjoyed since the fall of 1943. As the summer of 1944 waned, *Befehlshaber der U-boote* (U-Boat Headquarters, or BdU) decided that until improved types of U-boats became operational, an offensive against coastal areas offered the best chance of inflicting losses on the Allies.[21]

Shallow Water Submarine Warfare

With their decision to move into coastal waters using schnorkel-equipped U-boats, the Germans created a difficult problem for the Allies. Shallow water

ASW had been rare since early in the war. The Germans had found operating in coastal waters without schnorkels prohibitively difficult because of constant Allied air patrols.[22] In the first half of the war, U-boats had endeavored so consistently to escape to deep water that Allied doctrine prior to the Normandy invasion presumed that after an attack or upon being detected, U-boats operating in shallow water would head for deep water. The possibility that a U-boat might either settle on the bottom or move closer inshore was "considered unlikely."[23]

As it became apparent that the U-boats had begun to do exactly that, the Allies discovered that shallow water ASW was, for many reasons, a particularly demanding art. Sound conditions are extremely changeable in shallow water, a function of tidal and current variations. The effect of the bottom is another factor that can be largely ignored in deep water but not along the coast; rocks and shoals, as well as shipwrecks and schools of fish, can produce convincingly submarine-like echoes. Finally, the effect of fresh water from rivers and streams is frequently pronounced and, in combination with temperature variations, can cause especially dense layers to form in the water that so affect the propagation of sound as effectively to "blind" the sonar of a searching warship.

Consequently, warships acting as close escort to World War II convoys rarely detected a U-boat in shallow water before the submarine attacked. Schnorkel-equipped U-boats rested on the bottom in the vicinity of shipping traffic, rising up to fire a torpedo only when alerted by the sound of an approaching convoy. Waiting to detect convoys passively by their noise did not prove adequate, however, and in mid-December 1944 BdU ordered all U-boats to remain at periscope depth during daylight hours so as to increase their chances of finding targets visually.[24] This helped somewhat, and the U-boat's chance of being detected by the close escort before it attacked remained slight. After firing, the submarines either made off at slow speed just above the bottom, sometimes simply drifting with the tide, or rested on the bottom until searching forces had moved on.[25] Close escort vessels had little chance to destroy a submarine employing such "snap" attacks and, since they had to remain with their convoy, could rarely stay in the vicinity of an attack long enough to conduct the prolonged and methodical search necessary to find a bottomed or deep, slow-moving U-boat. Although close escorts were still essential because they complicated the attack problem of the submarine, they were often incapable of striking back effectively in the face of the new German tactics.

Aircraft patrolled coastal waters incessantly but rarely spotted schnorkels, and they had great difficulty attacking even if an aircrew was fortunate enough actually to find one.[26] New sensors such as sonobuoys were being introduced, but these were in a primitive stage of development. On occasion, U-boats were detected by sonobuoys and then attacked by air-dropped homing torpedoes—a very modern tactic indeed—but too rarely to have any significant impact on the

campaign.[27] The main effect of ASW aircraft was the caution that their pervasive presence induced among most U-boat crews. Seldom daring to surface, U-boats travelled slowly underwater at a fraction of their surfaced cruising speeds, groping for clues as to their own actual position.[28] Radio communication with BdU, a process that both required the submarines to surface and exposed them to the efficient Allied radio direction–finding network, became extremely intermittent, which in turn contributed to a growing inability at BdU to follow operations at sea.[29] Overall, ASW aircraft substantially reduced the effectiveness of U-boats but did not neutralize them. More direct measures were needed.

The strategic bombing campaign, for its part, succeeded in stopping U-boat production as the war drew to a close, and mines laid in the Baltic by these aircraft severely hindered the training of new U-boat crews.[30] These achievements gave promise of causing the entire German submarine campaign eventually to wither, but there was little that strategic bombers could do to counter the hundreds of U-boats that were already operational.

American hunter-killer groups had proved formidable U-boat killers during 1943 and early 1944 but rarely encountered German submarines in the later part of the war. As a result of rationalization of command structures and operating areas among the Allies in early 1943, the U.S. Navy handled the central Atlantic and the eastern seaboard of the United States, while British and Canadian forces were primarily responsible for the North Atlantic. Since by mid-1944 few U-boats remained in the central Atlantic, and not many submarines could reach the eastern seaboard travelling submerged, U.S. hunter-killer groups from then on seldom had any opportunity to show their mettle. The growing strength of the USN as the European war closed did allow that navy to "maintain nearly as many ships and aircraft in the Canadian zone [the waters adjacent to Newfoundland and the Canadian coast] as the entire naval and air strength normally available to the commander-in-chief Canadian Northwest Atlantic."[31] Nevertheless, it was at this late stage a minor player, because the main battle against schnorkel U-boats was now in the waters around the British Isles, the one area still within reach of most U-boats in the beleaguered German fleet. Almost by default, therefore, the main burden of countermeasures against the coastal campaign by schnorkel-equipped U-boats fell to Royal Navy and Royal Canadian Navy "support groups."

Support Groups

The ships of these groups were theoretically well prepared to deal with the new German tactics. They were the best equipped for ASW in their respective navies. By this stage of the war, the majority were either frigates or an equivalent class of vessels, fitted with the most modern weapons and sensors. The role of

support groups was to find and destroy U-boats wherever they posed the greatest threat to shipping.

The idea of a group of escorts whose primary role was to counter U-boats was straightforward enough. Experiments in 1942 had indicated how effective such an organisation could be.[32] However, it was only when enough ships became available to provide close escorts for all convoys that support groups were finally established in significant numbers. As the battle on the North Atlantic convoy routes approached its peak in the spring of 1943, the formation of five such support groups was one of the major initiatives taken that resulted in the crushing defeat of wolfpack attacks.[33]

The Royal Navy most commonly used support groups as rapid reinforcements for convoys either under attack or expected to come under attack. This practise was extremely effective as an antidote to wolfpacks but lost its utility as the Germans changed their tactics. USN hunter-killer groups, which were the American equivalent of support groups when the USN reentered the Atlantic

"The Germans were encouraged by the ability of [schnorkel-equipped U-boats] to operate in such heavily defended coastal waters as the English Channel but were acutely aware that simply surviving was not enough. Shipping had to be destroyed. . . ."

war in strength in 1943, emphasized the actual hunting of U-boats, using radio intelligence. The debate as to which approach was more strategically and tactically sound was a lively one at the time and has been since; however, the argument was reduced to irrelevance in the face of the new German tactics, which largely denied both Anglo-Canadian and American forces the intelligence they required to use these groups in their preferred ways.[34]

The great strength of support groups (and hunter-killer groups) was that because they were not exclusively preoccupied with protecting convoys, they had great flexibility. This allowed them to adopt procedures that became the foundation of eventual Allied success in the contest with inshore submarines. Prolonged searches for U-boats became a staple in their tactical inventory, as did extended operations in geographical areas where U-boat activity was high.

During 1944 the number of support groups grew to seventeen RN and seven RCN, while there were three RN and eight RCN North Atlantic close escort groups.[35] The predominance of the Royal Navy in support groups was partly a result of the larger size of that organisation, but it also reflected the greater role the Royal Canadian Navy continued to play in the close escort of North Atlantic convoys. The reason for this inequitable distribution is not clear in the records, but it is not unlikely that the RN considered close escort a less demanding task

than operating as a support group and therefore one more suited to the RCN's capabilities.

Most of the support groups were by late in the war allocated to United Kingdom waters, which senior officers in both the Canadian and British navies appreciated was the critical area. Canadian naval officers perceived that this concentration left the Canadian coast inadequately protected, but despite the risk the Naval Staff in Ottawa recommended that the five RCN support groups under the operational control of the RN remain in United Kingdom waters "unless there is a real need for them" at home—in other words, unless intelligence provided clear indication that a large number of U-boats were en route Canadian waters or shipping losses there soared.[36] In simple terms, only two RCN support groups remained to protect Canadian waters, while the majority operated overseas.

Despite the advantages of vastly superior numbers, adequate time to search, and good equipment, support groups found the task of locating schnorkel-equipped U-boats in coastal waters to be an extremely challenging one. The first experience these ships had with the new German tactics was in the difficult shallow waters of the English Channel in the wake of the Normandy invasion. One particularly graphic account is provided by Allan Easton, who commanded the destroyer HMCS *Saskatchewan* at the time. On 7 June 1944, his ship was narrowly missed by two German torpedoes, one of which apparently exploded prematurely, the other being detonated by the anti-acoustic-torpedo decoy deployed after the first explosion. While the *Saskatchewan* and the three other destroyers in the group saw the U-boat's periscope several times—sometimes in very close proximity—and conducted numerous attacks both upon it and upon a similar opponent the next day, the only result was, in Easton's words, "dead or unconscious cod rising to the surface."[37]

Compounding the difficulties was the lack of a coherent tactical doctrine. Some procedures had been prepared in anticipation of the invasion, and the techniques developed to combat U-boats in deep water could be applied to some extent in shallow water, but it soon became evident that the Germans had brought new and mysterious elements to bear and that a good deal more was required in response.

The first hints of the nature of the new German tactics (such as resting on the bottom to avoid detection) came from prisoners of war rescued from U-boats destroyed in the English Channel as the Invasion began. The first Allied message discussing this change appears to have been promulgated on 1 July 1944.[38] However, it was not until 25 August that the first new tactical search plan (known as "Scabbard") that dealt with "static" tactics was adopted.[39] In other words, it took two or three months for the Royal Navy to react as an organisation to the German changes.

During this transition period, the ships made do as best they could. Old tactics were adapted, and improvised plans were worked up within individual groups.[40] Although this was far from sufficient, the novelty of the situation militated against more rapid development of new tactics. It was also evident that a number of new tactical procedures would have to be developed: Scabbard was but the first of a series. It must also be emphasized that simply promulgating tactical procedures is only the first step in actually employing new methods; plans must be absorbed and practiced by all ships before they can be effectively employed, and in the best of conditions this takes a good deal of time. In the event, it would be almost another six months after Scabbard was first circulated before Allied antisubmarine ships began to demonstrate notable proficiency in any of the tactical techniques and procedures required to defeat schnorkel-fitted U-boats.

A further reason for the somewhat measured pace of the Allied response was that, initially, it seemed likely that U-boat operations inshore were only a passing phase dictated by the Normandy invasion. The limitations that U-boats laboured under in shallow water were well appreciated, and Allied intelligence considered that a return to (potentially) more effective wolfpack tactics would ensue once the Germans gave up their efforts (largely futile in terms of real effect) to interdict shipping through the English Channel.[41] As August ended, however, and the U-boats fled from the Biscay ports, firmer evidence of German intentions came to light. It became clear then that U-boats would concentrate in the coastal waters around Britain and not against mid-ocean convoys.[42]

The Inshore Battle: Tactics and Technology

The opening operations of the U-boats in the British littoral were comparatively small in scale, mostly because the evacuation of the Biscay bases had dislocated the German navy's organisation. A handful of U-boats were sent out to what were hoped, albeit more on the basis of estimates than solid intelligence, to be the most profitable hunting areas. The most successful U-boat of this period, the *U-482*, operated in the North Channel, the area just north of Ireland where shipping from North America had been routed since the fall of France. This boat's patrol lasted from 16 August until the 26th of September, and she claimed three merchantmen, one corvette, and one rescue ship, taking two of her victims only fifteen miles from the Irish coast. The success of this bold submariner in these waters came as something of a shock to the Allies, despite the experience off Normandy. Not only had all the merchantmen been in convoy when sunk,[43] but the U-boat had traversed waters where a special effort had been made to detect and destroy submarines on passage.[44] Although *U-482* was the only boat to achieve significant success during this period, her

accomplishments made it apparent that the Allies had a long way to go in countering "static" tactics.

Command and Tactics. Analysis of the *U-482*'s attacks led to a change in the command arrangements between close escort and support groups.[45] Support groups had always been put under the control of the senior officer of the close escort group of whatever convoy they had been sent to support. During the period when convoys on the high seas were the focus of German attacks, this arrangement was entirely appropriate; support groups, which rarely stayed with any convoy for more than a day or two, necessarily had a less complete tactical picture than the senior officer of the close escort.[46] With the switch to static tactics by U-boats, however, the situation was radically altered. Since convoys were no longer the focus of a running battle, support groups were now tasked to operate in specific geographical areas. Convoys were still "supported" as they passed through these areas, but now the support group's knowledge of the peculiarities of a locality were far more important than the close escort's familiarity with the idiosyncrasies of a convoy. In particular, the support group's knowledge of bottom conditions and wreck locations in a local vicinity became critical. As a result, in mid-September 1944 the Senior Officers of support groups were made independent of the close escort when operating in support of a convoy.[47]

In September 1944 the RN officially acknowledged that U-boats would probably employ static tactics. From doubting that U-boats would ever choose to "bottom," the Royal Navy had swung almost completely around. In a message to all forces under his command engaged in the fight against U-boats, Admiral Sir Max Horton, Commander in Chief Western Approaches, put forth the view that "when a ship in convoy is torpedoed in waters where a U-boat can bottom it should be assumed that it will do so provided immediate scaring tactics [i.e., urgent ASW attacks] are adopted."[48] Ships of the close escort were given detailed new tactics as well, which varied depending upon whether a support group was present or not. Previously developed tactical procedures, "Artichoke" by day and "Basin" by night, were adopted for the close escort's initial reaction to a torpedo attack. Artichoke called for the escorts in the van of the convoy to reverse course back through the convoy columns en route to the stricken ship. Details of Basin have not been found, but presumably it too called for the close escort to congregate near the stricken vessel. Particular emphasis was placed on the importance of quick action as soon as there was evidence of the presence of a U-boat. Once the initial actions were completed, Scabbard was to be conducted by either a part of the close escort or, if one were available, by a support group.[49]

The Admiralty summarized the new methods in a message of October 1944. This especially recommended stationing escorts astern of the convoy so that they could "pounce" upon a U-boat in the wake of a torpedo attack. The synopsis of U-boat intentions in the final paragraph accurately outlined the new German tactics and stressed the change from previous methods: "U-boats can now operate inshore and are likely to adopt static tactics in place of the mobile tactics which we have been used to dealing with. Static tactics involve the use of curly and gnat torpedoes fired from U-boats which endeavour to lie in wait on the course of convoys. When no targets are available U-boats are likely to move with great caution and charge by snort [i.e., schnorkel] mainly by night. On approach of a hunting force [the U-boat] will probably bottom or may drift with tide near bottom."[50]

The tactical procedures developed in the late summer and early fall of 1944 remained essentially unchanged for the remainder of the inshore campaign.[51] In practice it was not uncommon for standardized tactical procedures to be combined or slightly modified as escorts reacted to unique situations. The general principles in inshore ASW were, however, constant: quick reaction and concentration of forces in the vicinity of an attack to deter further attacks and destroy the enemy, followed by a prolonged hunt by support group ships if, as generally happened, the enemy eluded the initial response.

Patrolling geographic areas near shipping routes where U-boats might be lurking entailed endless hours of repetitious effort, most of it to classify the innumerable wrecks and other nonsubmarine contacts to be found in the English Channel and southern Irish Sea. Tactical procedures for these patrols evolved with experience gained during the winter of 1944–1945. Essentially, a group had two choices: either to proceed at slow speed so that anti-acoustic-torpedo decoys were unnecessary and maximum asdic (i.e., sonar) effectiveness was assured, or to proceed at moderately high speed, searching with decoys deployed. The first approach gave a relatively high probability of detection in the swept water but covered little area, produced numerous false contacts, and gave U-boats some opportunity to evade because of the warships' slow speed of advance. The second option was less likely to detect a U-boat but was more likely to disturb any submarine present in the search zone, because of the greater area that could be swept. If enough groups were available, a combination of these methods could be productive, because U-boats intent on avoiding the noisy high-speed groups might be ambushed by the slow, stealthy ones.[52] However, because there were seldom sufficient numbers in one place for this ambitious scheme, most groups alternated between the two approaches, depending upon weather and asdic conditions and on the amount of time available to linger in an area.

Detection, Classification, and Prosecution. Actually locating a submarine was a serious problem throughout the campaign. The relative number of U-boat detections by asdic in the last year of the war was not markedly less than it had been in earlier years.[53] However, the comparative ineffectiveness of other detection assets (such as high-frequency direction-finding [HF/DF] of radio signals, radar, or visual sightings) because of the almost constant submergence of U-boats meant that reliance on asdic was far greater. With only one effective sensor, the total number of detections dropped dramatically. Initially, this led to grave concern in some quarters that asdic did not work in shallow water. The truth was more complex. Asdic was somewhat less effective in shallow water because of the number of nonsubmarine contacts that confused operations there, but there were areas in both deep and shallow water where U-boats could operate with relative impunity, due to hydrographic factors, from discovery by asdic. The issue in both deep and shallow water was initial detection, and the Second World War asdic was a poor sensor for this role (now known as surveillance) because of its extremely limited range. The overall problem was not, however, so much with asdic itself as that there were in this late period so few other detection opportunities to complement asdic searches; heretofore, between mid-1941 and mid-1944, most boats had first been detected when surfaced, either by radar or visually.[54]

Once an asdic contact was gained, the problem quickly became (as it does today) one of classification—that is, deciding whether or not the contact is a submarine. Contacts were often made that seemed convincingly like submarines;[55] escorts were advised early in the campaign to "plaster" each one.[56] This advice was valid but obviously expensive. Not only did it result in the expenditure of an enormous amount of ordnance (maybe on "false alarms"), but the time required to attack all contacts disrupted searches for real U-boats. The repeated detonation of large amounts of explosive depth charges also caused wear and strain on the ships' hulls. Expeditious classification of bottomed asdic contacts became something of a "holy grail," and escorts assiduously pursued it. Despite their best efforts, all methods remained less than satisfactory.

The size of the target as determined by asdic proved to be only a rough guide at best. The sound quality of the echo returned by a contact was similarly equivocal, since many nonsubmarine contacts provided far sharper and clearer echoes than the real item. A bottomed contact could be identified if the vessel was equipped with an appropriate echo sounder, but this technique required a highly skilled crew. The Type 761 echo sounder provided the best results, especially if the vessel was adept enough to pass directly over a U-boat in the same direction in which the U-boat was lying. This produced a trace that showed the length, breadth, and height of the U-boat and even the distinctive outline of its conning tower. Even this data was not definitive, however, for the waters

around the British Isles had become the resting place of many wrecked submarines. A comparison of the position of the contact with a chart of all known wrecks would, given precise enough navigation, provide a final determination as to whether the contact was real or not. Nevertheless, even if the wreck chart indicated that the boat in question was long dead, a good echo-sounder trace would warrant a precautionary attack.

Good navigation was essential, both to reduce the number of unnecessary attacks and ensure that escorts remained in contact with targets that proved to be a "live" submarine. Because of the frequency of nonsubmarine detections, it was not unknown for escorts to be seduced from a valid contact onto a false one nearby. A veteran of the inshore battle recalled an incident in which one "U-boat kept us chasing all night, and I am not sure that we did not start after one U-boat and finish with another."[57] The value of an accurate and easy-to-use radio navigation system for searching in such difficult waters can scarcely be overstated. In the last part of the war, such a system, known as "Gee," became available in the English Channel and southern Irish Sea, and many, although not all, escorts in support groups were fitted with the necessary receivers. Gee allowed escorts to differentiate between contacts as close as one thousand yards apart and therefore enabled warships to plot wrecks quickly and accurately. Groups fitted with this equipment became very familiar with the wrecks in their assigned patrol area after an initial period of endless contacts. Gee was so valuable that support groups that were only partially fitted complained in no uncertain terms that more sets were essential.[58]

Ships also used buoys to assist in their prosecution of bottomed contacts. The "dan" buoy, a small buoy that could be anchored in a specific spot, was the recommended aid. It prevented escorts from drifting inadvertently away from a contact through being either set by tide or blown by wind while the contact sat immobile on the bottom. The value of such an aid to location in the featureless sea was demonstrated on a number of occasions, and its use was continually advocated by training establishments.[59]

Operational Results. The lowest point in the campaign occurred in December 1944; during that month, U-boats torpedoed eleven ships in British waters.[60] No submarines were sunk in the wake of these attacks, and only three U-boats were destroyed by antisubmarine forces in U.K. coastal waters: two by ships and one by aircraft.[61] The total number of U-boats destroyed during the month was fourteen, but three of these losses were the result of accidents, three boats were bombed in harbour, and one was from unknown causes. Although the shipping losses to U-boat attack at this time were insubstantial in comparison to the vast flow of Allied trade now crossing the Atlantic, the impotence of antisubmarine forces was evident. It was at this point, on 6 January 1945, that the First Sea Lord

expressed his serious concern (quoted above) to the Chiefs of Staff Committee. His worst fear was that the U-boats had mastered the difficulties of manoeuvering in shallow waters and were now becoming more aggressive. If this were true, and experienced U-boat commanders began returning to spread the word that convoys could be attacked with relative impunity providing proper tactics were

"The lowest point in the campaign occurred in December 1944. . . . Although the shipping losses to U-boat attack at this time were insubstantial in comparison to the vast flow of Allied trade now crossing the Atlantic, the impotence of anti-submarine forces was evident."

employed, a daunting number of ships might be sunk in the near future. Fuelling the First Sea Lord's anxiety was intelligence that the powerful, new Type XXI and XXIII U-boats would soon enter the battle. The combination of these grim possibilities led him to suggest that by the spring of 1945 it was possible that the worst Allied shipping losses of the war might be suffered.[62]

It did not happen that way. As noted, only a handful of the new U-boats undertook wartime patrols, far too few to have any significant effect or to provide post-war analysts enough data with which to more than speculate what these modern craft might have accomplished. More importantly, the support groups began to gain the upper hand over the older types of U-boats.[63] The turning point came in February. While eleven merchantmen and three escorts were torpedoed around the British Isles, three U-boats were destroyed in the wake of their attacks, and, significantly, another six fell to patrolling ships before they could make any attacks at all. The increasing numbers of U-boats detected and destroyed before they could strike was clear evidence of the growing experience and expertise of support groups in shallow water operations.[64] The Royal Air Force Coastal Command accounted for two more U-boats in February, and one "kill" was shared between sea and air forces.[65] In short, the destruction of fourteen ships had cost the U-boat arm twelve submarines: a devastating ratio. Nor was that all. Altogether the Germans lost twenty-one U-boats from all causes in all areas during February.

German losses continued to mount as the war neared its end. In April, U-boats sank ten merchantmen and two escorts but lost ten of their number to Allied escorts and six more to Coastal Command aircraft, with another boat sunk by the two services together. The total U-boat losses for April were fifty-five, many during bombing raids on German ports or while the boats attempted to flee at speed on the surface from Germany to Norway as the Reich collapsed.[66]

The older submarines could no longer keep up the fight. At the end of March and in early April, U-boats were ordered to move further off shore, where they

would again try to hide in deep waters.[67] It was a futile strategy, since it was understood that individual U-boats positioned well out to sea would sink very few merchantmen. The main result of this last measure was that fewer encounters took place between U-boats and Allied escorts. Those that did occur were once again in deep water. Indeed, the wheel had turned full circle. In late April 1945, the Commander in Chief Western Approaches reminded his forces that antisubmarine action was still possible in deep water, and that in the event U-boats were detected there, "it will be necessary to forget tactics recently developed for shallow water operations and concentrate on those previously so successful in deep water."[68]

In less than a year, the U-boats had been forced to retire from the last area where they could possibly enjoy success. Victory was less than total—U-boats continued to operate in the Atlantic right up to the very end—but it was far from hollow. The success of Allied antisubmarine forces clearly stemmed from the rapid and effective way in which the primary opponents of the U-boats in this last campaign—Anglo-Canadian support groups—adapted tactically to the challenge presented by the new style of U-boat warfare. The way in which these groups were deployed to counter the German initiative and how they were trained to deal with new enemy tactics illustrate the effective operational and tactical flexibility of Allied navies by this late stage of the war. Despite these successes, the period of adaptation was lengthy enough to cause distinct concern in certain circles of the Allied high command. The delay was due partly to the time inevitably required to perceive and react to the German initiative, but it was also a consequence of the inherent difficulties of conducting ASW in shallow water. Not only did the support groups have to become proficient in new tactics, but their crews had to become accustomed to the much more complex conditions commonly encountered in coastal waters. Only when new tactics, training, and experience all came together were the Allies able to deal with the new challenge. That they were successful speaks well of their capabilities; that it took more time than many thought it should demonstrates the problems that even a veteran naval force has in adapting to new initiatives by an opponent, and specifically to the difficulties of countering submarines in coastal waters.

Notes

1. S.W. Roskill, *The War at Sea, 1939–1945*, v. 2 (London: Her Majesty's Stationery Office, 1956), pp. 377–79.

2. "A Forecast of the Results of the U-boat Campaign during 1945," memorandum by the First Sea Lord dated 6 January 1945 (C.O.S. (45) 14(0)), National Archives of Canada (hereafter NAC), RG 24, v. 11752, MS 369-2.

3. The major arguments in this article are drawn from the author's master of arts thesis, "The Last Cruel Winter: RCN Support Groups and the U-boat Schnorkel Offensive," Royal Military College of Canada, Kingston, Ontario, March 1992.

4. Admiralty Message C A/S O Number 6, to large distribution, date-time group 271816Z October 1944, NAC, RG 24, 83-94/167, v. 2616, File 16121-5, v. 2.

5. F.H. Hinsley, *British Intelligence in the Second World War*, v. 3, pt. II (London: Her Majesty's Stationery Office, 1988), p. 462.

6. *Ibid.*, p. 474.

7. "Schnorkel" is the anglicised spelling of the German word *schnorchel*. It will be used throughout this article.

8. E. Rossler, *The U-boat: The Evolution and Technical History of German Submarines* (Annapolis, Md.: Naval Institute Press, 1981), p. 198.

9. G. Hessler, *The U-Boat War in the Atlantic, 1939–1945* (London: Her Majesty's Stationery Office, 1989), sec. 442.

10. S.E. Morison, *The Atlantic Battle Won, May 1943-May 1945*, v. 10 of *History of the United States Naval Operations in World War II* (Boston: Little, Brown, 1956), p. 338.

11. The contemporary assessment by BdU of the results of their operations against the Normandy invasion is found in the BdU War Diary entry of 30 September 1944, Canadian Department of National Defence Directorate of History (hereafter D Hist) 79/446, v. 10, p. 645.

12. J. Terraine, *Business in Great Waters* (London: Leo Cooper, 1989), pp. 646–47.

13. BdU War Diary, "Final Summary of Submarine Operations in the Channel," 30 September 1944, pp. 636–46, v. 10, D Hist 79/446. Twenty U-boats were destroyed in the course of forty-five sorties during the period 6 June to the end of August 1944, in return for nineteen Allied ships sunk and seven damaged. A good summary of the campaign is given in Hessler, section 454.

14. Hinsley, v. 3, pt. II, pp. 474–76.

15. Werner Rahn, "The Development of New Types of U-boats in Germany during World War II," in "Les marines de guerre du dreadnought au nucleaire," *Actes du colloque international Paris Novembre 1988*, Service Historique de la Marine, nd., p. 362.

16. Hessler, sec. 464.

17. *Ibid.*, sec. 459.

18. Rahn, p. 366.

19. The author's opinion is that an attempt to employ wolfpack tactics using Type XXI U-boats would have met with limited success at best.

20. Hessler, sec. 442.

21. *Ibid.*, sec. 452.

22. Hessler, secs. 91 and 119; and W.A.B. Douglas, *The Creation of a National Air Force: The Official History of the Royal Canadian Air Force*, v. 2 (Ontario: Univ. of Toronto Press, 1986), p. 509.

23. CB 04050/44, entitled "Inshore Operations by U-boats," dated 30 March 1944, NAC, RG 24, 83-84/167, v. 2616, File 16121-5, v. 1.

24. Hessler, sec. 473.

25. Hessler, sec. 472. There were rare instances where U-boats chose to depart the scene of an attack by raising their schnorkel and travelling at high speed.

26. Roskill, v. 3, pt. II, p. 178; and *The RAF in Maritime War*, v. 5, p. 109, D Hist 79/599.

27. N.L.R. Franks, *Search, Find and Kill: Coastal Command's U-boat Successes* (Bourne End, Bucks, England: Aston Publications, 1990), p. 58; and Roskill, v. 3, pt. II, p. 295.

28. Hessler, sec. 446. The difficulty U-boats had in navigating in coastal waters without occasionally surfacing to fix their position caused enormous problems for them and led to several running aground and foundering. The most dramatic illustration of the problem was the inadvertent penetration of Spithead by the *U-763* in July 1944 after the boat had lost its bearings.

29. Hessler, sec. 437. One exception to this generalization were U-boats employed in weather-reporting duties in the mid-Atlantic. For a good account of the fate of one of these submarines, see D. Syrett, "Weather-Reporting U-boats in the Atlantic, 1944–1945: The Hunt for U-248," *The American Neptune*, Winter 1992, pp. 16–24.

30. Hinsley, v. 3, pt II, p. 484; *The RAF in Maritime War*, v.5, p. 176; and D Hist 79/599.

31. Douglas, p. 608.

32. D. van der Vat, *The Atlantic Campaign* (New York: Harper & Row, 1988), p. 290.

33. RCN-RCAF Monthly Operational Review, August 1944, D Hist 182.013. The ships for these support groups were found by such desperate measures as halting all convoys to Russia from March until November 1943.

34. W.T. Y'Blood, *Hunter-Killer* (Annapolis, Md.: Naval Institute Press, 1983), pp. 273–74, provides a representative example of this debate, with a distinctly pro-American bias. The USN particularly emphasized the use of escort carriers (CVEs) in these groups. The RN also used CVEs to assist in ASW from time to time but had too few of these vessels to make it a common practise the way the USN did. While CVEs had proved devastatingly effective in the mid-war period, they experienced considerable frustration against schnorkel-equipped U-boats, so much so that many were assigned to other duties. See Y'Blood, p. 257.

35. D. Hist ADM 223/20, November 1944 (microfilm).

36. *Ibid.*

37. A. Easton, *50 North* (Toronto: The Ryerson Press, 1963), p. 256. Easton discovered after the war that both torpedoes were fired from approximately one thousand yards. On 8 June Easton saw his first schnorkel and did not realise what it was until another ship opened fire on it. He also describes his experience with another new German tactic, which was to launch a balloon with a radar decoy attached that simulated the small and erratic movement a U-boat schnorkel or periscope might exhibit. The novelty of dealing with inshore U-boats is well portrayed in the section from page 252 to 263.

38. Message from Commander in Chief Western Approaches to wide distribution, 011325Z July 1944, NAC, RG 24, 83-84/167, v. 2616, File 16121-5, v.1. This intelligence was repeated at the end of the month in Admiralty Monthly Anti-Submarine Report for July 1944, D Hist Library, D 780 M66, 1944, Jul.-Dec.

39. Board of inquiry on loss of SS *Empire Heritage* and RFA *Pinto*, covering memorandum from Admiral Horton to the Secretary of the Admiralty dated 30 October 1944, NAC, RG 24, v. 11718, File SC 31-1-8.

Scabbard was also circulated in the Admiralty Monthly Anti-Submarine Report for August 1944 (quoted below in its entirety). Admiralty Monthly Anti-Submarine Reports Jul.-Dec. 1944, D Hist Library, D 780 M66 1944 Jul.-Dec.

Operation "Scabbard"

The following is an appreciation of likely U-boat action subsequent to torpedoing of a searching vessel in coastal waters.

U-boat will bottom after firing.

When bottomed she will lie to the tide.

The most probable area lies between circles at radius 2,500 yards and 4,000 yards around the wreck.

The following search operation "SCABBARD" has been designed to detect a U-boat that is believed to have bottomed after torpedoing an escort vessel of a searching force.

One ship closes the position of the torpedoing to obtain information from survivors and to provide a datum point, dropping rafts if necessary. All other ships form up 5,000 yards from the wreck so as to carry out a line abreast sweep of the area (given in paragraph 2), across the tide and allowing for the tide. Ship providing datum point either joins the sweep when organised or acts as in last paragraph.

Distance apart of ships to be:—

Three ships present ..... 3,000 yards
Four ships present ..... 2,000 yards
Five ships present ..... 1,500 yards

Having completed the sweep across, ships turn 180 degrees together and sweep back across the area, dropping depth-charges at frequent intervals.

One ship is then detached to pick up survivors and the remainder carry out a box search, using "EI" turns, the inside limits of the search being tangents to the outer limit of the probability area.

40. "Submarine Warfare in the Channel," Commander J.D. Prentice, RCN, to Commodore (D) WAPPS [Western Approaches], 17 July 1944, NAC RG 24, v. 11575, File D-01-18-0.

41. Hinsley, v. 3, pt. II, p. 467.

42. *Ibid*, p. 466.

43. Roskill, v. 3, pt. II, p. 180.

44. Details of this operation, which was cryptically dubbed "CW," are sparse, but it is obliquely discussed in "Survey of A/U Operations in U.K. Coastal Waters July 1944-May 1945," Directorate of Naval Operational Research report 13 July 1945, D Hist ADM 205/44 (hereafter DNOR).

45. Board of Inquiry concerning the attack on Convoy HFX 305 in the North Channel in September 1944. The attack was one of the several successful ones made by the *U-482*. NAC, RG 24, v. 11718, File CS 31-1-8.

46. RCN-RCAF Monthly Operational Review, August 1944, D Hist 181.009 (D3188).

47. Message from Commander in Chief Western Approaches to general distribution, 132331Z September 1944, NAC, RG 24, 83-84/167, v. 2616, File 16121-5, v. 2.

The Royal Navy continued to seek a better command arrangement between close escorts and support groups even after the end of the war. In a proposed change to Atlantic Convoy Instruction (ACI) 166, dated 13 July 1945, which dealt with the "Conduct of Support Groups," three types of support were defined:

- *Support*—assist senior officer of the close escort group;
- *Join and Conduct*—assist convoy, but the senior officer of the support group directs antisubmarine operations while in his area; and
- *Cover*—search for U-boats in the vicinity of a convoy, but close escort group and support escort group remain distinct and separate.

The last two definitions clearly reflect the experience of the last winter of the war, while the first harks back to situations common in the mid-war period. NAC, RG 24, 83-84/167, v. 634, File S-1837-84.

48. Message from Commander in Chief Western Approaches to general distribution, 132331Z September 1945. This message amended slightly a previous one sent out 9 September, the newer message placing more emphasis on the likelihood that a U-boat would bottom. NAC, RG 24, 83-84/167, v. 2616, File 16121-5, v. 2. "Scaring tactics" are not strictly defined in any of these messages but the term presumably refers to the generous use of depth charges in a random manner and aggressive investigation of areas where a U-boat has definitely disclosed its position—usually, in this phase of the war, hy firing a torpedo.

49. *Ibid.*

50. Admiralty Message C A/S O Number 6, to wide distribution 271816Z October 1944, NAC, RG 24, 83-84/167, v. 2616, File 16121-5, v. 2.

"Curly" was the generic British term applied to German pattern-running torpedoes. These were standard torpedoes equipped with either "Lut" or "Fat" devices that caused them to begin turning, first one direction and then another, so as to comh repeatedly the intended area where a convoy was expected to pass.

"Gnat" was the British term for the German Type V acoustic homing torpedo.

Details of Admiralty knowledge of German torpedoes can be found in the Admiralty Monthly Anti-Submarine Report for February 1945. Admiralty Monthly Anti-Submarine Reports Jan.-Jun. 1945, D Hist Library, D 780 M66, 1945.

51. A good summary of the Allied perspective in mid-winter is found in C A/S O Number 7, summarized in Commander in Chief Portsmouth's message of 200042Z February 1944, NAC RG 24, 83-84/167, v. 3734, File NSS 8100-3.

52. E.J. Williams, "Note on the Deployment of A/S Forces Against U-boats Operating in British Inshore Waters," 26 Decemher 1944, NAC, RG 24, 11752, MS 369-2. Professor Williams was Assistant Director of Naval Operational Research in the Admiralty.

53. W. Hackmann, *Seek & Strike* (London: Her Majesty's Stationery Office, 1984), p. 239.

54. *Ibid.*, p. 239.

55. Easton, pp. 252–53.

56. Admiralty Monthly Anti-Submarine Report July 1944, D Hist Lihrary, D 780 M66, 1944, Jul.-Dec.

57. D.E.G. Wemyss, *Walker's Group in the Western Approaches* (Liverpool: The Liverpool Daily Post & Echo Ltd., 1948), p. 141.

58. "Report of Proceedings of Second Division [of EG 26] from 14 Febniary to 8 March, 1945," D Hist, NHS 8440 EG 26, File NSS 1926-EG 26.

59. Admiralty Monthly Anti-Submarine Report April-May 1945, pp. 32–33, D Hist Library, D 780 M66, 1945, Jan.-May.

The Royal Navy also instituted a program that marked wrecks permanently. Specially designed submerged buoys, known as "Winners," sent out distinctive sonic signals that could be easily detected by asdic at a range of two to three miles. They were carefully laid one thousand yards due north of known wrecks. Ingenious as it sounds, the success of the scheme does not appear to have heen great, probably because of the abundance of wrecks around the United Kingdom; the programme was not widespread.

Western Approaches Monthly News Bulletin, December 1944, pt. III, p. 2, D Hist 81/520/1650-AS v. 28; and message from Admiralty to USN addressees, 030504Z January 1945, NAC, RG 24, 83-84/167, v. 2616, File 16121-5.

60. DNOR.

61. Roskill, v. 3, pt. II, p. 466.

62. "A Forecast of the Results of the U-hoat Campaign."

63. DNOR.

64. DNOR.

65. Roskill, v. 3, pt. II, p. 294.

66. *Ibid.*, pp. 300 and 467–69.

67. Hessler, sec. 479.
68. Commander in Chief Western Approaches to wide distribution, 282254Z April 1945, NAC, RG 24, 83-84/167, v. 2616, File 16121-5, v. 3.

Ψ

The Ernest M. Eller Prize

The Naval Historical Center and the Naval Historical Foundation are pleased to announce the award of the 1992 Ernest M. Eller Prize in Naval History to Dr. Steven J. Dick, of the U.S. Naval Observatory, for his article "Centralizing Navigational Technology in America: The U.S. Navy's Depot of Charts and Instruments, 1830–1842," published in the July 1992 issue of *Technology and Culture*. Professor William M. McBride, of James Madison University, was awarded an Honorable Mention in the 1992 Eller Prize competition for his article, "Strategic Determinism in Technology Selection: The Electric Battleship and U.S. Naval-Industrial Relations," published in the April issue of *Technology and Culture*.

Dr. Dick's essay examines how the Navy sought to apply technology to solve problems related to oceanic navigation and highlights the role played by junior officers in providing the impetus for centralizing navigational technology. Professor McBride's article discusses how strategy and technology shaped and defined the relationship between the Navy and American industry in the early twentieth century.

The purpose of the Eller Prize, which includes an honorarium of $1,000, is to encourage excellence in research, writing, and publication on the history of the U.S. Navy. Nominations for articles published in scholarly journals in 1993 may be sent to: Senior Historian, Naval Historical Center, Washington Navy Yard, 901 M. Street SE, Washington, D.C., 20374-5060. Articles will be judged on the originality of their contribution to naval history and on their scholarship and must be submitted no later than 1 March 1994.

"A Dazzling Vision of Antiseptic Warfare"

Captain Robert C. Rubel, U.S. Navy

Hallion, Richard P. *Storm Over Iraq: Air Power and the Gulf War.* Washington, D.C.: Smithsonian Institution Press, 1992. 352pp. $24.95

THE CHIEF OF AIR FORCE HISTORY, Dr. Richard P. Hallion, has written a book about Operation Desert Shield-Desert Storm that embodies the thesis that "simply (if boldly) stated, air power won the Gulf War." He argues that advances in technology have enabled air power to fulfill the promise of a former generation of visionaries; that air power can win wars by itself. Dr. Hallion conducts an analysis of the Gulf War to marshall evidence for his view.

He begins with a compelling account of how the U.S. military underwent the process of reassessment and renewal after the humiliating withdrawal from Vietnam. The author deserves praise for writing a chronicle of the process through which the American military establishment rebuilt its pride and professionalism, and he also clearly shows why many Americans should not have been surprised by the overwhelming effectiveness of the American military forces against Saddam's vaunted war machine.

The book is richly infused with data about the war, including a series of well written appendices that describe the weapon systems the coalition forces employed, much of which is a valuable source of information for the lay reader. However, there are shortcomings and difficulties. Some of the illustrations that tout the superiority of air power over other kinds of forces appear to be straight out of Air Force indoctrination publications, but their origin is not noted. Some of the evidence offered is not totally accurate.

For example, Hallion implies on page 135 that in the first hours of Desert Shield, early-deploying U.S. Air Force units immediately constituted a "trump card" against a possible Iraqi armored thrust into Saudi Arabia. The evidence he offers is the existence of a prepositioned cache of fuel and enough air-to-ground ordnance to destroy "3,000 tanks." However, while there was indeed considerable ammunition in-theater, it was not actually available at the airfields until ten days or two weeks after the invasion of Kuwait had occurred. Neither were

Captain Rubel is a strike fighter pilot who is currently serving on the Naval War College faculty. He commanded Strike Fighter Squadron 131 aboard the USS *Eisenhower* during Desert Shield.

there sufficient aircraft available, from any source, to generate a level of effort sufficient to stop a determined Iraqi assault. At that time, what anti-armor and ground-attack capability existed resided in the two aircraft carriers that had reached the Red Sea and Gulf of Oman and with the Marines and the Army airborne units that were rushed to the scene. Because a fundamental part of Hallion's thesis rests on the presumed ability of air power not only to get to scenes of crisis "firstest with the mostest" but to act effectively, even decisively, immediately thereafter, this is not a minor point.

Shifting to his account of the Gulf War, Hallion develops evidence that air operations in the Gulf War had a powerful effect on the capacity and will of the Iraqis in Kuwait to resist the advance of the allied ground forces. He further asserts that the war was essentially won before the first coalition ground unit crossed its line of departure. In fact, he refers to the ground portion of the campaign as the *reoccupation* of Kuwait. His description of ground operations makes almost no mention of any of the significant actions between VII Corps units and the Iraqi Republican Guard, or of the heavy fighting that the First Marine Expeditionary Force (I MEF) experienced at the outskirts of Kuwait City. His outlook on the ground portion of the campaign was that "sporadic ground action did occur. . . ."

Hallion's intent seems to be to convey the impression that the ground war was not necessary; he apparently believes it occurred only at the behest of ground officers eager to participate and earn glory. His account of the deliberations that culminated in the order to execute the ground portion of the campaign is filled with quotes that make it appear the U.S. leadership felt that air power was decisive. Viewed through Hallion's eyes, the decision to commit ground forces appears almost irresponsible. After all, if everyone was convinced, including the president and the secretary of defense, that air power alone was winning the war, what justification was there for risking innumerable American and allied lives in a ground assault? The reader is left with the feeling that while the national leadership was convinced of the efficacy of the air campaign, they caved in to "traditionalist" pressures to launch a ground offensive. If only air power had been allowed to proceed, Hallion's argument goes, a decision could have been reached without recourse to ground operations.

In comparison, the Mitre Corporation's analysis of the war is more objective. Its review of ground operations reveals a different picture. While the air campaign did indeed have a considerable effect on the Iraqi capability and will to fight, its effects were primarily on command and control and on the less capable units composed primarily of conscripts. The overall Iraqi defensive capability remained significant. A valid case can be made that the nature of coalition ground maneuver and the technical superiority of our weapons were at least as important as air action and share responsibility for the stunning success

we enjoyed. Our Abrams tanks' 120mm guns outranged those of the Iraqi T-72s by a decisive margin, which, along with advanced fire control, allowed our armored forces to shoot up Iraqi tanks and positions without any return fire. Moreover, coalition forces found that Iraqi troops offered tough resistance when in a position to fight the kind of frontal defensive battle for which they had been prepared. But when flanked or otherwise outmaneuvered, they quickly surrendered or fled. The "Hail Mary play" prevented any organized defense of Kuwait by Iraq, and, along with the disruptions of command and control brought about by air power, it created in the Iraqis a mindset of impending catastrophe—precisely the condition rapid and integrated AirLand Battle maneuver is supposed to create. It is therefore not at all clear that air power alone caused the massive surrenders.

The author's view of the Navy's contributions to the victory is especially troubling. While Hallion is effusive in his praise of the Navy's performance of missions he regards as appropriate for naval forces (such as maritime interception operations), he takes pains to present a negative picture of naval aviation. In this vein he uses excerpts from a letter by a naval officer who functioned as an observer of operations in the Arabian Gulf that indicate naval aviation as a body did not understand the strategic concepts of air power. In contrast, he repeatedly attributes to Colonel John Warden, U.S. Air Force, and his ad hoc group of Air Staff planners known as "Checkmate," a true understanding of how air power should be employed. His one-liner stating that naval aviation planners also contributed fails to indicate the true nature of the situation that preceded the opening of the air war. While Checkmate planners were busy applying doctrine, a joint but Navy-led organization called SPEAR did a heroic job of convincing Air Force leaders to change their initial air campaign tactics. The Air Force planners had proposed tactics that were inappropriate for the nature of the terrain and defenses that U.S. pilots would encounter in Iraq. We will never know what would have been the outcome of the Checkmate plan had it been carried out as initially drawn up, but it is clear that the extremely low rate of coalition air losses is directly attributable to the so-far unacknowledged efforts of the small but influential SPEAR team.

What Hallion offers is a dazzling vision of antiseptic warfare in which destruction of a certain "target set" by high-technology aircraft and missiles will quickly and cleanly bring about the political conditions necessary for a favorable settlement of disputes. This is a seductive claim because air power is easy to use. It can be employed without the logistical expense and political messiness of troops on the ground, and its newest technology seems to reduce both the risk of U.S. airmen becoming POWs and that of innocent civilians being harmed. When making claims for the effectiveness of air power it is also easy to hide

unasked questions and unchallenged assumptions within such broad concepts as the "Five Strategic Rings."

There are also some logical difficulties. In order to accept the author's thesis that (land-based) air power can win wars by itself, one must first perceive a linkage between destruction (air power's stock-in-trade) and control (the acquiescence by the enemy to our desires). Many writers have tried to establish such a link, but uniformly they have failed to demonstrate a clear theoretical connection. The late Admiral Joseph C. Wylie, in his search for a universal theory of strategy, admitted that he could not establish such a connection. The reason it is difficult if not impossible to do so is that political conditions attendant to conflict are both complex and dynamic. There are cases in which neither destruction of an opponent's forces nor damage to his resources was sufficient to generate the desired political objectives. This was either because the victim was able to mobilize outside support through diplomatic initiatives or because the attacker's own populace became disenchanted.

The problem is that once the bullets and bombs start flying, the flow of events is not linear; effects do not devolve from causes in a straightforward manner, for any number of reasons. But an air-only strategy is necessarily based on the logic of a straight-line link between the application of a certain tonnage of bombs to some array of targets and obtaining acquiescence of the enemy to the desired conditions. Among the many factors that can confound such an approach is the distinct possibility that the amount of destruction required to extort cooperative decisionmaking from enemy policy makers may be out of proportion to the national interests at stake, a condition which may produce more overall political harm than a favorable settlement is worth. Those who argue that precision delivery of ordnance makes it possible to paralyze an enemy's military and economy with minimum "collateral damage" beg the question of whether such effects, even if obtained, would be relevant to the issue at hand.

Clearly, the United States must have at its disposal an array of military capabilities that can be used in ways that make sense in terms of the specific circumstances. To chain ourselves to an air-only doctrine, as Hallion appears to suggest, would limit severely the flexibility of our future responses in crisis situations. It might even produce the unfortunate effect of luring our policy makers prematurely or inappropriately into making destruction part of U.S. policy.

Richard Hallion's book does provide the reader with a sophisticated understanding of why the United States military did so well in the Gulf War. But in its attempt to make a case for the dominance of land-based air power over all other forms of military might, it does the reader a disservice.

Ψ

IN MY VIEW . . .

"How Cross He Must Have Been. . . !"

Sir,

I was much taken by the painting on the cover of the latest copy of the *Naval War College Review* [details from "The Sloop *Providence*, John Paul Jones, Eluding H.M. Frigate *Solebay* and Firing a Swivel Cannon," an oil painting by William Gilkerson, Spring 1993]. I am currently putting together a book on "command decisions" and have it in mind to include this incident as an example of professional skill, coolness in the face of danger, all accompanied by a little bit of luck!

So, as I was in the Public Record Office (PRO) on another task I decided to dig out the captain's log (Captain Thomas Symonds, RN) of HMS *Solebay*. Somewhat to my surprise I read the following:

> September 1. Moderate and cloudy with showers of rain. ½ past 1pm saw a sail ahead, fired 23 rounds [*sic*] shottes at the Chace, a Sloop from Philadelphia to Surinam laden with Flour, Tar and Lumber. 5 sail of the convoy in sight.
> September 2. Moderate and cloudy. Read Articles of War. 3 sail of the convoy in sight.

Well, I thought, a British captain cannot tell a lie in his ship's log, so all this talk of John Paul Jones making a fool of the *Solebay* must be fabricated, or, perhaps, the date is wrong. But, being a prudent researcher, I then decided to dig out the master's log and here is what I found (some of the writing is ungrammatical, all of it difficult to read):

> Sunday September 1, 1776. [Off the New England coast.] Moderate breeze and cloudy. PM saw a Sail ahead and gave chace. At ½ past 3 fired 2 guns at the Chace. She broached too, found her to be a sloop from Philadelphia bound to Surinam. Out a boat and sent 2 petty officers and 8 men onboard the sloop and brought the master and 6 men from the Sloop. At 6 hoisted in the boat and made sail. At ½ past 6 AM saw a sail to windward, shortened sail for the convoy. At 7 made sail, out 2 reefs [indecipherable] and gave chace to the sail to windward. Found her to be Rebel privateer. Fired 2 Nine Pound shot at her. At ½ past 9 [our?] ship got up the fore-top-gallant yard. Still in chace.
>
> Monday September 2. Moderate breeze and cloudy. At ½ past 5 PM the Chace finding we came up with her, bore away. We bore away after her and set Stearingsail. During the chace fired 40 Nine pounders at her. Night coming on left off chace. Hauled down the stearing sail, in 2 reefs of the Topsails to wait for the convoy. . . .

So, the master was obviously a rather more honest man than his captain, who simply left out the bits that showed him up badly! How cross he must have been that a Yankee privateer outsailed him!

I find the master's timings a bit difficult to follow and am not sure what he means by "Stearingsail," but obviously he is writing about the same incident portrayed in the *Review*.

David Miller
Meadway, Twickenham,
England

Editor's note:

As to the master's seemingly reversed "AM" and "PM," Mr. Miller points out in a separate letter that the master's log's "day" ran from noon to noon; "in modern terms, they caught the Surinam-bound vessel one afternoon and saw the 'Rebel' vessel the following morning," i.e., 2 September. Also, as the artist, Mr. Gilkerson, explains to us, "the master's reference to 'stearing sail' refers to the setting of studding sails [light sails set outboard of square sails to increase their effective area]—no telling how many—probably foretopsail studding sails, maybe topgallants. There was a stiff breeze blowing."

Ψ

SET AND DRIFT

— I —

Signals and Sealift

Merchant Ship Communications Security

Lieutenant Eric R. Bodner, U.S. Naval Reserve

THE U.S. MERCHANT MARINE HAS RECENTLY enjoyed a great deal of attention, and rightfully so. Sealift played an important role in our success in Southwest Asia. The spotlight on shipping has revived awareness of the merchant marine's defense role and of our dwindling sealift capability. But there is another aspect of the merchant marine that needs to be brought to light: shipping's vulnerability to electronic warfare. The communications systems used to direct strategic sealift can be exploited. The signals of our merchant ships are open to hostile interception, exploitation, and disruption. That state of affairs can and should be corrected, lest we suffer needless losses in the future.

During the Gulf War a favorable set of circumstances allowed us to transport cargo without enemy interdiction. We should be thankful that, this time, the threat to Allied shipping was deterred, and thus nearly nonexistent. In a future conflict our adversary might be capable of using the electromagnetic spectrum to our disadvantage. Since most merchant vessel communications are unprotected against hostile direction-finding, intelligence gathering, imitative deception, and jamming, we may discover that an enemy is able to employ our communications as a weapon against us and disrupt the flow of logistics by sea.

To ensure that the afterglow of recent success has not dulled our senses, we should remind ourselves that merchant ships are targets. During the Iran-Iraq

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war, several hundred vessels were set upon with rockets, bombs, and missiles.[1] During the Falklands War, British and Argentine merchant vessels were sunk.[2] During the Second World War thousands of ships went down, and the casualty rate for American civilian sailors was exceeded by that of only one branch of the U.S. military, the Marine Corps. Although another Battle of the Atlantic is unlikely, the submarine, anti-shipping weapon *par excellence*, still remains a threat: "It could prove disastrous . . . to assume, in a future Third World crisis to which U.S. forces have been committed, that the absence of Soviet involvement had virtually eliminated the underwater threat from submarines."[3] It seems that a variety of threats to shipping yet remains in the post–Cold War, post–Gulf War era.

The Electronic Battleground

Granted, merchant ships can be expected to go into harm's way. But why are the communications signals of merchant vessels so vulnerable? For that matter, why are signals so important? Signals have been not only important but decisive in some contexts, as they were in a particular series of events that occurred in 1942. During a convoy operation in that year, the escort vessel *Spikenard*, a Canadian Flower-class corvette, was sunk by a U-boat, which then succeeded in imitating the *Spikenard*'s radio communications and learned thereby where the remainder of the convoy was headed. As a result, the U-boat was able to intercept and again attack the convoy. In another instance, a freighter was diverted back to port by, evidently, a U-boat imitating a naval communications station.[4] Many times in 1942 the German submarines that inflicted such heavy losses on American shipping "derived great benefit from American carelessness with radio."[5] One U-boat ace, Kapitanleutnant Hardegen, reported to Admiral Karl Dönitz that he found merchant ship radio traffic "the most important resource for successful operations."[6]

The cryptologic battles that altered the history of the Second World War have been detailed in a number of books and articles. One of them, *The Sigint Secrets*, suggests that what was actually more decisive than code-breaking was the refinement and application of the all-inclusive science of signals intelligence, including direction-finding and traffic analysis.[7] Don E. Gordon's *Electronic Warfare* supports the same premise: that cryptanalysis is but a subset of a larger set of electronic warfare (EW) tools.[8] That premise is an important one. It implies that encrypting a message is not enough—much can be gleaned from even an encrypted transmission. It suggests that those who need to communicate securely would be well advised not only to encrypt the meaning conveyed within a transmission but to conceal the transmission itself.

The policy today, because analysis and exploitation of electronic signals has become fundamental to the conduct of warfare, is to communicate with low

probability of intercept, for which a number of technical and procedural approaches (known as LPI techniques) are available and in use. The electromagnetic spectrum is as much a battleground as the land, the air, or the sea. Those who fail to grasp that concept put themselves at great risk. Just as every Marine is a rifleman and every sailor a damage-controlman, so every unit needs to be a communications security group. How does our merchant marine measure up?

Our Communications Capabilities

The radio gear carried by merchant ships today is suitable only for business-as-usual, peacetime purposes. Because our merchant marine lacks the equipment and procedures for communicating in any sort of EW environment, we may lose vessels and valuable cargos in the early days of some future contingency, as we did in World War II. In 1992 the same resource once exploited by U-boats is still available to potential enemies—our vessels' radio traffic—and our merchant ships remain vulnerable. The author's experience during Desert Storm is illustrative. A few days before the start of the ground war in February 1991, the freighter SS *Cape Catoche* was directed to proceed northbound through the Arabian Gulf. Carrying 5,000 tons of ammunition, we passed near mine danger areas and advanced so close to Kuwait that we could see the glow of burning oil wells and hear and feel the concussion from the shelling. We unloaded our cargo at al-Mishab, a port in the northernmost part of Saudi Arabia. Throughout the entire operation our only tactical link with the Navy, our short-range communications "lifeline," was that most public of international calling frequencies—VHF channel 16, the seagoing equivalent of Citizen's Band radio.

Merchant ships sent into harm's way ought to be capable of communicating by not only encrypting or scrambling the content of a transmission but also by concealing the transmission itself (which is the purpose of the LPI concept). There will be times when merchant ships will need a means of communicating rapidly and securely at radio line-of-sight distances, in an LPI mode.

Why has this need not been met? There are complications. The merchant marine is expected to function both in the commercial as well as the military sectors, and the communications requirements of the two roles are overlapped and somewhat in conflict. Because merchant ships engage in commercial pursuits most of the time, going to war only infrequently, the military requirements tend to be de-emphasized by the commercial operators and owners. The Navy also tends to downplay requirements for merchant ship communications, because after all, the merchant marine is not a part of the Navy; in fact, it is traditionally considered by the Navy to be a poor relation. Sealift lacks glamour; as a retired admiral of the Royal Navy has suggested, "There is a tendency in the Western armed forces to think that 'one

is not doing a man's job unless one is in a fleet destroyer, or flying an attack aircraft, or dashing about . . . in a main battle tank.'"[9]

Probably the most troublesome problem inhibiting secure communications for merchant vessels, however, is the tremendous overhead of accountability. Communications Security Material System accounts with "two-person integrity" are costly to maintain. Furthermore (as if cost were not enough of a problem), the mariners who work onboard commercial ships come and go according to pay, working conditions, benefits, and job availability (as in any commercial environment), a circumstance not conducive to control and accountability.

Improving Our Capabilities

There is no single all-encompassing remedy for the lack of secure communications for strategic sealift. However, there are at least two ways of approaching the problem: by adding on to merchant ships equipment and manpower from the Navy's existing communications systems, or by developing new systems. The first approach was used when U.S. Navy Armed Guard radio teams were embarked on some World War II merchant vessels, and again in the early 1980s when containerized communications suites were placed on vessels acquired from the United Kingdom by the Military Sealift Command.

The second approach, the development of new communications systems, undoubtedly has more promise. The new technology that may hold out most hope for correcting the merchant marine's tactical communications deficiencies can be found in the commercial telecommunications marketplace: digital radio techniques, specifically direct-sequence spread spectrum, now used in wireless computer local-area networks (LANs). Spread spectrum is an advanced modulation technique with an inherently low probability of intercept that has long been used by the military but seldom in the commercial sector for equivalent purposes. The basic idea is to "dilute" or broaden a radio transmission to cover a very wide band of frequencies. One cannot listen in on a spread-spectrum signal by tuning a conventional receiver to a specific spot on the dial; the spread-spectrum transmission is spread all across the dial. The signal remains undetectable, noticeable only as a slight increase in overall noise. A special receiver, programmed with a unique algorithm, is required to "de-spread" the signal and recover its intelligence.

Today one can buy a small UHF radio transceiver that connects to any desktop computer and transmits and receives a high-speed data stream (fast enough for digitized voice) for local-area networks via direct-sequence spread-spectrum modulation. Considering the sophistication of the technology, the unit price of a few hundred dollars is remarkably low. The circuitry at the heart of these

wireless LAN transceivers can probably be adapted to other spread-spectrum applications: it might be relatively inexpensive to design a line-of-sight voice radio for rapid tactical communications, using LPI and simple procedures for remote keying as used in the STU-III secure telephone (thereby alleviating the need for two-person accountability for communication security material).

There remains the question of long-range communications. During the Gulf conflict most allied merchant ship long-range communications needs were well served by the MARISAT satellite system. Its commercial voice and teletype circuits were reliable and effective; in the few cases where vessels were provided with the STU-III secure telephone, the circuits were even encrypted. The STU-III, which alleviates the administrative-security overhead, is a step in the right direction. The STU-III/MARISAT combination is a highly effective and simple solution, as far as it goes.

We were fortunate in 1990–91, however, that Iraq chose not to jam the MARISAT uplink frequencies. That task would probably be a trivial one for even a poorly equipped practitioner of electronic warfare. By jamming MARISAT uplink frequencies assigned for the Indian and eastern Atlantic oceans, a transmitter located in Iraq (or in any of dozens of other countries within the satellite's "footprint") could have blocked satellite communications for all merchant ships located east of Italy and west of Singapore. A third of the globe would have become a "black hole" for merchant ship communications. The command and control of strategic sealift would have ceased. What secure long-range circuit would ships have used if MARISAT had been jammed?

Perhaps merchant marine communications security requires the attention of experts from a variety of disciplines. Solutions might be found by drawing upon the technical knowledge of the Space and Naval Warfare Systems and naval cryptological communities, the realistic threat assessments of intelligence analysts, the tactical know-how of the surface warfare community, and the plans and practical experience of the Naval Control of Shipping Organization and Military Sealift Command. The collective knowledge of these specialists might be tied together by operations analysts, who could attempt to sort out every imaginable scenario involving merchant ships—in convoy or independent steaming, in an EW environment, with escorts either unavailable or available only in various states of readiness, and in situations short of war in which the need to avoid signals exploitation nonetheless exists.

For merchant ships that will require LPI communications, the most affordable and suitable solutions may be based on technology already available in the commercial sector. If no solutions are found, the ships and cargos of strategic sealift could be left vulnerable one day, and the men who serve on those ships would find themselves, as the Chinese proverb says, "living in interesting times."

Notes

1. Nigel Ling, "Merchantmen in the Gulf Front Line," *Jane's Naval Review 1985*, p. 62. See also Reginald Brown and Frederick Turner, "Passive ECM—Merchant Ships' Answer to Self Defense?" *Defense Science*, February 1985, p. 37; Shahram Chubin and Charles Tripp, *Iran and Iraq at War* (Westview, 1988), p. 277; and Edgar O'Balance, *The Gulf War* (Brassey's 1988), p. 216.
2. Andrew Ambrose, "Conflict and Commerce," *Jane's Naval Review 1982*, pp. 138, 143.
3. Desmond Wettern, "The Threat That Never Was," *Sea Power*, November 1991, p. 31.
4. Samuel E. Morison, *History of United States Naval Operations in World War II: Vol. I, The Battle of the Atlantic, September 1939 – May 1943* (Atlantic and Little, Brown, 1947), pp. 128–29.
5. D. van der Vat, *The Atlantic Campaign* (Harper & Row, 1988), p. 260.
6. Michael Gannon, *Operation Drumbeat* (HarperCollins, 1991), p. 405.
7. Nigel West, *The Sigint Secrets* (Quill, 1990), p. 27.
8. Don E. Gordon, *Electronic Warfare* (Pergamon, 1981), p. 4.
9. Desmond Wettern, "Wartime Adaptation of Merchant Ships," *Sea Power*, June 1983, p. 38.

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Annual Statement of Ownership

Statement of ownership, management, and circulation (required by 39 U.S.C. 3685) of the *Naval War College Review*, Publication Number 401390, published four times a year at 686 Cushing Road, Newport, R.I. 02841-1207, for 31 October 1993. General business offices of the publisher are located at the Naval War College, 686 Cushing Road, Newport, R.I. 02841-1207. Name and address of publisher is President, Naval War College, 686 Cushing Road, Newport, R.I. 02841-1207. Name and address of editor is Frank Uhlig, Jr., Code 32, Naval War College, 686 Cushing Road, Newport, R.I. 02841-1207. Name and address of managing editor is Pelham G. Boyer, Code 32A, Naval War College, Newport, R.I. 02841-1207. Owner is the Secretary of the Navy, Navy Department, Washington, D.C. 20350-1000. Average number of copies of each issue during the preceding 12 months is: (A) Total number of copies printed: 10,779; (B) Requested circulation, mail subscription: 6,481; (C) Total requested circulation: 6,481; (D) Free distribution by mail, carrier or other means: 4,060; (E) Total distribution: 10,541; (F) Copies not distributed (office use, left over, unaccounted, spoiled after printing): 238; (G) Total: 10,779. The actual number of copies of single issue published nearest to filing date is: (A) Total number of copies printed: 10,940; (B) Requested circulation, mail subscription: 6,733; (C) Total requested circulation: 6,733; (D) Free distribution by mail, carrier or other means: 3,972; (E) Total distribution: 10,705; (F) Copies not distributed (office use, left over, unaccounted, spoiled after printing): 235; (G) Total: 10,940. I certify that the statements made by me above are correct and complete.

(signed) Pelham G. Boyer, Managing Editor

— II —

The Application of Space to Military and Naval Operations

Commander Thomas G. Seigel, U.S. Navy

EVERY OFFICER IS FAMILIAR WITH AT LEAST some aspects of the "Space Age," whether from our popular culture's fascination with space or from what space systems actually provide deployed forces on a daily basis with respect to weather, navigation, communications, and intelligence. What is probably missing from a professional officer's understanding of space, however, is a unifying concept, a strategic and operational-level understanding as to what space-based systems can and cannot provide in war.

To develop an organizing principle for the application of space to waging war, it would be useful to adapt the currently accepted mission of "sea control" to space. Thus, taking the definition of sea control as "the ability to use the sea where, when, and how desired," and applying it to the newest theater of military and naval operations, space, we may extrapolate to define "space control" as "the ability to use space where, when, and how desired in order to support or conduct military or naval operations."

There are two complementary functions, or roles, subsumed in this overarching concept of space control: "space use" and "space denial." Extrapolating again from naval terminology, these new terms have the following meanings: "space use" is the ability to employ space as desired to support or conduct one's own military or naval operations; "space denial" is the ability to prevent the enemy from using space to his own advantage.

With these concepts in mind, possible space use and denial functions can be enumerated easily. For *space use* there are currently seven.

- Combat
- Intelligence (including intelligence preparation of the battlefield, reconnaissance, and targeting)

Commander Seigel is a naval intelligence officer assigned to U.S. Space Command as chief of Space Support teams. He was previously responsible for Indications and Warning Intelligence Center watch operations for USSPACECOM and the North American Air Defense Command (NORAD). Previous duty included assignments as Intelligence Officer of the USS *Enterprise* (CVN 65) and to the Naval War College faculty.

- Communications
- Navigation
- Weather
- Battle Damage Assessment
- Missile Launch Detection and Warning

The first function, combat itself (the other six being combat-support roles), involves both attacks from space to earth (a future possibility) and antisatellite operations (a current capability). As weapons are placed in space or as terrestrial, sea, or aircraft-based antisatellite weapons are fielded, space will become another medium in which combat will occur or through which it will be propagated. When it does, space will be, in essence, a "mature" medium for warfare, just as land, sea, and, most recently, air have been. Like them, space will have its attendant strategies and doctrines, evolutionary and revolutionary.

The second space control function, space denial, is the converse of the first. Options for space denial may be considered to be bounded by the opportunities available to attack or otherwise negate either the space-based or terrestrial portion of an opposing space system. Using the terms "hard kill" (physical destruction) and "soft kill" (impairment of combat effectiveness by whatever means), we may list the following possible tactics.

- ***Satellite as target:***

Hard kill—Antisatellite (ASAT) systems including direct-ascent ASAT missile, anti-ballistic-missile missiles with ASAT capability, co-orbital ASAT, laser, directed-energy weapons, electro-magnetic impulse, etc.

Soft kill—Electronic warfare; deception and concealment.

- ***Satellite-related sites as targets:***

Hard kill—Attacks on ground sites.

Soft kill—Electronic warfare (including anticomputer options), political pressure, economic pressure, deception and concealment.

Antisatellite attack is what normally comes to mind when denying the use of space to an enemy is discussed. However, the options of space denial, broadly conceived, are more varied and allow a greater degree of flexibility than do ASAT operations alone. A course of action may be selected that is tuned both to the political environment of an emerging situation and the military outcomes desired.

If a satellite is the intended target, and a strong political statement through assured permanent destruction of that satellite is desired, then a hard-kill solution would be indicated. Currently, the only proven, operational ASAT capability resides in the Russian co-orbital system. The United States developed a homing ASAT missile, launchable from a specially configured F-15; after initial successful tests, however, it was discontinued as a result of congressional action. It is likely that the worldwide development of hard-kill ASAT weapons will continue,

although at a slow pace, and that various approaches will be explored, including laser, directed-energy sources, and kinetic-kill devices. For the near term, the Commonwealth of Independent States, especially Russia, and the United States will likely remain the only countries with the technical base and desire to develop such hard-kill weapons.

Other countries will presumably desire a hard-kill ASAT weapon, but they will find the soft-kill alternative more readily (if not currently) available, because of the simpler technological and industrial base it requires. If hard kill is either not feasible or not desirable (because of the political implications such an overt act may have), it is possible to negate satellites by electronic warfare (EW). In fact, unless satellites have been fitted with specific countermeasures, EW is perhaps the easiest means of putting them out of action. Electronic warfare provides four methods to counter a satellite: meaconing, interference, jamming, and intrusion (known collectively as MIJI).* While jamming is effective and is probably the simplest of these four methods to employ (and perhaps the easiest for the satellite's operators to detect and verify), the remaining MIJI options offer many possibilities for intentionally manipulating satellites or their data to the detriment of an enemy, and not necessarily with his knowledge. They present an opportunity to develop an entirely new area for deception operations.

The second major option for space denial is concerned with the terrestrial side of any space system. All space systems are supported by a variety of essential facilities, which include launch and control sites, communications facilities, and tracking assets. These facilities are possible targets for efforts to negate or degrade the usefulness of a space system, and they can be affected through either hard or soft-kill techniques.

If the actual destruction of the land portion of a space system is intended, politics are certainly a major consideration in the calculus of this decision. Depending upon the target and the method to be employed, the political cost of such an overt act may be prohibitive. In fact, it is possible that the portion of a satellite's terrestrial system to be targeted may be located not in the enemy's country but in the territory of a third party. Additionally, this facility may be owned by an international corporation or consortium that may have substantial international legal standing. This circumstance will become even more likely as more countries join consortia in order to pool resources for commercial space ventures (which may have inherent military applicability). An additional consideration in attacking a space-related terrestrial target is the means to be employed. Direct attack by easily identifiable military forces (such as aircraft or cruise missiles) may not be desirable; other direct options do exist, however, such as

* "Meaconing" is the deliberate confusion of navigation (especially air) by rebroadcasting radio beacon signals. See *Department of Defense Dictionary of Military and Associated Terms*, JCS Pub 1-02 (Washington: U.S. Govt. Print. Off., 1 December 1989).

insurgent, surrogate, or special operations forces. Each of these alternatives provides a degree of deniability that may be desirable.

There are other electronic, political, and economic approaches to space denial that are more attractive politically than the foregoing. They may even be useful for preventing conflict; by displaying resolve or by demonstrating the vulnerability of a potential opponent (especially one dependent on space systems), they may persuade an adversary to use means other than warfare. Soft-kill space denial avoids the need to rebuild a facility completely after the conflict is resolved, but it does not preclude resort to permanent destruction if the problem escalates.

The future will see a struggle for space control analogous to that in the twentieth century for air supremacy and the struggle for sea control that has been waged since the time of the ancient Greeks. In both cases, control of these mediums allowed the victor to "shape" the battlefield. Space has already served U.S. forces in conflicts of recent decades, but public acknowledgement of this fact has come only since Operations Desert Shield and Storm. What must also be recognized is that since American forces are heavily space-dependent, to retain the use of space must be a paramount consideration for U.S. planners in any future contingency. For the foreseeable future, conflicts will pit space-dependent U.S. forces against adversaries that have limited need for the medium. This asymmetry represents a potential Achilles' heel that could be exploited by a "space-smart" enemy; it would not be very difficult to do.

What is certain is that space, as a new medium or theater of military operations, is here to stay. If we are to prevail in this new environment, space control must become as commonplace to our professional mentality as the concepts of sea control and air supremacy. Failure to assimilate it may be disastrous, or at least seriously impede us, if we face an enemy who chooses to exploit our vulnerabilities. Space control will be as critical to future victories as air and sea control have been up to the present.

Ψ

[Robert E. Lee is] *too* cautious & weak under grave responsibility . . . wanting in moral firmness when pressed by heavy responsibility & is likely to be timid & irresolute in action.

General George B. McClellan
Peninsula campaign, April 1862

BOOK REVIEWS

A book reviewer occupies a position of special responsibility and trust. He is to summarize, set in context, describe strengths, and point out weaknesses. As a surrogate for us all, he assumes a heavy obligation which it is his duty to discharge with reason and consistency.

Admiral H.G. Rickover

"Not Strategists, but Technicians of War"

Asprey, Robert B. *The German High Command at War: Hindenburg and Ludendorff Conduct World War I.* New York: William Morrow, 1991. 558pp. $27

Barnett, Corelli, ed. *Hitler's Generals.* New York: William Morrow, 1991. 497pp. $14.95

Warlimont, Walter. *Inside Hitler's Headquarters 1939–45.* Navato, Calif.: Presidio, 1991. 658pp. $35

THE MODERN GERMAN ARMY has generally been analyzed in institutional rather than biographical terms. Whether it is presented as incorporating a unique genius for war or described as reflecting a consistent incapacity to look beyond the dynastic conflicts of an earlier era, the army as an entity remains a preferred subject of study. Where personalities appear, they are used to illustrate larger themes: the "specialist idiocy" of a Schlieffen, the proto-fascism of a Ludendorff, or the operational virtuosity of a Rommel or a Manstein.

A strong case can be made for a reverse approach: interpreting the army in terms of its personalities. From its royal Prussian beginnings the German army was deeply rooted in overlapping cultures of individualism. Few men rise to the top of any armed service simply by following in the footsteps of their immediate predecessors. The assertiveness generally necessary to achieve high rank was reinforced in Germany by a steadily increasing emphasis on honor—a concept associated with the individual as well as the class and the profession to which he belonged. A German officer was expected to stand for the right, in principle and practice, even in the face of his superiors. Excessive suppleness of spine was considered a more serious flaw than excessive thickness of head. Finally, the German army's increasing stress on "mission tactics" demanded a corresponding emphasis on initiative at all levels of command. Looking over one's shoulder for

orders was more likely to guarantee early retirement than assure professional success.

Robert Asprey goes so far as to take a biographical approach to the collapse of the Second Reich. Instead of concentrating on the Empire's structural weaknesses, Asprey interprets its downfall as the result of "expanded military egos unchecked by civil authority." The principal "egos" belonged to Field Marshal Paul von Hindenburg and General Erich Ludendorff. "The Duo," as Asprey refers to them, made their reputations in 1914 with the victory of Tannenberg. In the next four years a combination of self-promotion and ruthless intrigue brought them to the summit of power in Germany. Hindenburg and Ludendorff made and broke chancellors, reduced Kaiser Wilhelm to a figurehead, and rendered farcical even the limited parliamentary elements of Germany's constitution. They also led their country to destruction—by a stubborn, irrational insistence on waging total war for total victory. Rejecting any concept of negotiations, "the Duo" exhausted Germany's resources, physical and spiritual, until the eviscerated Imperial system collapsed in November 1918.

Asprey's thesis is defensible, if hardly original; where he falls short is in his presentation. He works from an extremely thin source base. He relies heavily on published diaries and memoirs but takes an essentially uncritical approach to their contents. Also, he derives too many of his lines of argument from a single source, building on that one work and repeating citations to it throughout entire chapters. Finally, his approach lacks subtlety. Asprey paints in primary colors, avoiding nuances that might facilitate understanding of his protagonists. He demonstrates Hindenburg's intellectual shallowness, for example, with extensive quotations from an artist who spent part of 1915 at the Field Marshal's headquarters painting heroic commemorative oils. Repeated accounts of Hindenburg's concern with the accurate spacing of buttons or the proper color of a pair of trousers are meant to show his failure to comprehend the nature of modern war. Paul von Hindenburg was certainly not one of history's great military intellectuals, but what *should* he have discussed with an artist, if not the details of the artist's paintings? Asprey's use of this material makes about as much sense as critiquing General Eisenhower's military competence through the memoirs of his wartime chauffeur.

Similar negative oversimplications emerge in Asprey's treatment of Ludendorff, the Kaiser, Theobald von Bethman Hollweg, and virtually everyone else who wielded power in Germany before 1918. This reviewer holds no brief for "the Duo" in particular or for Germany's wartime government in general. Yet to attribute that country's military and political decisionmaking almost exclusively to motives of base self-interest or plain stupidity, as does Asprey, is to overlook too many facts and principles that influenced German policy.

A more comprehensive and better-balanced work is Corelli Barnett's paperback anthology, originally published in 1989. The book's twenty chapters discuss twenty-six generals, ranging from headquarters personalities like Field Marshal Wilhelm Keitel and Alfred Jodl, chief of the German operations staff and principal adviser to Hitler, to battle captains like Erwin Rommel and Sepp Dietrich. Barnett admits that the selection of subjects was arbitrary, seeking at best to represent the different theaters of war and levels of high command. The contributors include more soldiers, journalists, and popular historians than academicians, and none of the essays is particularly remarkable for original scholarship or argument. On the other hand, the authors generally eschew the fashionable tendency to debunk for the sake of debunking. It is refreshing, for example, to read Martin Blumenson's evaluation of Rommel as "meriting the acclaim accorded him" during the war, Sir Michael Carver's analysis of Field Marshal Fritz Erich von Manstein, and Carlo D'Este's empathetic treatment of Field Marshal Walther Model, which stand out among the competent contributions.

Hitler's generals emerge from Barnett's pages as a significantly more heterogeneous body of men than their World War I predecessors. Some, like Sepp Dietrich and Walther von Reichenau, were heavily influenced by the ideology of National Socialism. Some, like Karl Rudolph Gerd von Rundstedt, were old-line in every way, as dubious about new ways of war as they were suspicious of Adolf Hitler. Some, like Heinz Guderian and Kurt Student, were innovators. Taken as a whole, they were most successful at the tactical and operational levels of their profession. Fridolin von Senger und Etterlin was one of the better corps commanders developed by any army during World War II. Hasso von Manteuffel was a model general of armored forces. Hans-Jürgen von Arnim proved himself a gifted tactician and a humane enemy in the North African campaign. However, at higher levels of responsibility the characterizations are decidedly more ambiguous. Rundstedt, in Earl Ziemke's essay, "seemed to be more than he was" both professionally and morally, and Samuel Mitcham charitably describes Ewald von Kleist as "no genius." At planning levels the picture becomes truly pathetic. Walter Görlitz's portraits of Keitel and Jodl only reinforce the familiar image of military office-boys: attendant lords good for little but to swell a progress and start a scene or two. Franz Halder, Chief of Staff in the critical years from 1938 to 1942, emerges from Barry Leach's essay as a man who preferred observing events to shaping them—like Rundstedt, a living inversion of the traditional General Staff motto, "be more than you seem."

To a significant degree the shortcomings of the Third Reich's generals reflected their complex, ambiguous relationship with Adolf Hitler. Barnett points out that the Nazi regime presented a moral challenge as its criminality

became obvious to them, while Hitler's personalized and haphazard approach to military planning posed a professional dilemma.

The development of these processes is a major theme of *Inside Hitler's Headquarters.* This is an unrevised reprint of a work first published in English in 1964. Its author, General Walter Warlimont, served from 1939 to 1944 as deputy chief of the Wehrmacht operations staff—a desk job that gave him ample opportunity to observe, from a relatively safe and critical distance, the dynamics of Hitler's exercise of supreme command. His memoirs avoid both the self-exculpation and the overt Führer-bashing common to their genre. Warlimont describes instead the consequences of Hitler's increasing determination to run the war in detail, using his military professionals as an enlarged planning staff with no real command authority. Especially significant in the context of this review is Warlimont's depiction of Hitler's growing moral domination of the soldiers in his immediate entourage. As Hitler's mental, physical, and emotional resources eroded under the immense stress of his assumed burden, keeping the Führer calm and postponing the next destructive temper tantrum became infinitely more important for them than averting the final catastrophe that loomed ahead for anyone with eyes to see.

The generals of the Third Reich were, to a degree, victimized by their own desires. They might be described as initially creating a Hitler in the army's image. The disaster of World War I had clearly shown the consequences of overextending the military's direct authority. When Hitler described the Third Reich as resting on "two pillars," the German army and the Nazi party, the generals responded by assigning him in their own minds the role once exercised by Bismarck. In their world view, such as it was, the Führer would establish the international and domestic matrices of victory. The soldiers would run the war, and, as a by-product, teach the "Bohemian Corporal" his manners. Instead, for the first time in their history, Germany's armed forces performed in the context of a system that was deliberately unlimited in its seeking of enemies and deliberately open-ended in its grand-strategic objectives.

The familiar argument that Hitler's generals were too busy fighting a war to know the true nature of the system they served has a hollow ring. From Ludendorff to Manstein, the works reviewed here offer protagonists who accepted circumstances instead of altering them. At best, the German army's approach to war was more likely to develop skilled field commanders than outstanding grand strategists, but the National Socialist paradigm defied both the mind and the soul of the army's officer corps. Hitler's generals were not weaklings. There were, as suggested earlier, men of strong will who found themselves confronted by something even stronger—an elemental moral force, albeit a negative one. In everyday terms the relationship between Hitler and his generals described in Warlimont's text invites comparison to such classic

domestic comedies as the television series *I Love Lucy* or the long-running comic strip *Bringing Up Father*. In this context, Hitler plays the "feminine" role, regularly overcoming "male rationalism" with emotional intensity. The generals sputter and blow yet ultimately give in, resigning themselves to make the best of things and, in their own minds at least, abrogating final responsibility for an *outcome* already willed by virtue of their participation in the *process*.

The essential difference between the general and the subaltern is that the latter is tested physically, the former morally. Whatever their motivations, Germany's generals in the twentieth century remained technicians of war—a step or more below the highest levels of military achievement. Might not their self-imposed limitations in the moral sphere have reinforced and reflected their professional shortcomings?

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Corum, James S. *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform*. Lawrence: Univ. Press of Kansas, 1992. 274pp. $29.95

In the summer of 1919, the Treaty of Versailles imposed what Germany considered a humiliating peace. In the summer of 1939, Nazi Germany was poised to launch a war of revenge against the victors of 1919. This would not have been an option were it not for the weapon forged by leaders of the German army during the twenty years in between. How they accomplished it is the subject of this work by James Corum, professor of comparative military studies, School of Advanced Airpower Studies, Air University.

Corum correctly states that "the rebuilding of the German Army is one of the most impressive and significant military accomplishments of the twentieth century." General von Seeckt, as Chief of the Army Directorate of the postwar German army, the Reichswehr, was responsible between 1920 and 1926 for downsizing the army to meet the constraints of Versailles. This Treaty Army was restricted to 100,000 men (4,000 officers and 96,000 enlisted) in seven infantry and three cavalry divisions.

However, Seeckt (and most leading Germans, civilian as well as military) believed that a larger force was needed for the country's legitimate defensive needs, a point that Britain and France were willing to concede only in February 1935.

Seeckt's problem was essentially twofold: (1) rebuild the army from the ruins of war and revolution, and (2)

develop it as a cadre for future expansion. Seeckt's first years in command were marked by internal battles such as border conflicts in the East and the French invasion of the Ruhr. Despite these obstacles, however, Seeckt was able to organize and train the force and, despite the limits placed by the Treaty on its weapons, develop an up-to-date tactical doctrine for the army based on the integration of modern arms. By the time of his dismissal in 1926, Seeckt had molded this Treaty Army into what Corum terms "a superb cadre force with which to build a large, modern army."

Corum acknowledges that Seeckt's reform efforts grew out of the German army's experience in World War I. As documented by Timothy Lupfer in *The Dynamics of Doctrine* (1981), the Western Front brought decentralization of combat. The rifle regiment of 1914, under the tactical command of a colonel, had to make the transition into a combined arms force in which the role of platoon and squad leaders was key.

Seeckt required an army with both an immediate crisis-response capability and a force able to be a cadre for expansion. The former mission required an "elite army" (*eliteheer*) and the latter an "army of leaders" (*führerheer*). Although some units should have been charged with one mission and others with the second, Seeckt was forced to burden all units with both missions.

The East, where Seeckt won his fame, was a training ground for maneuver-warfare operational commanders of the next war, and Corum stresses the "eastern" emphasis in postwar German developments. It was in the West, however, that the German army learned how to fight when maneuver failed and a breakthrough battle needed to be fought. Reichswehr doctrine and organization, in effect, amalgamated the experiences of the two fronts, combining the operations-level lessons of the East with the tactical lessons of the West.

Corum examines the processes by which General von Seeckt was able to turn the weaknesses of the defeated army into advantages. For example, the loss of World War I–generation weapons enabled the Reichswehr to perform detailed analysis of new weapons, build prototypes, and develop doctrine for their use. Also, because 100,000 men were too few to wage war, recruiting technically capable personnel became the rule. They were trained to employ the new systems in combat and to train others in an expanded Reichswehr.

The story of Seeckt's Reichswehr is certainly one of getting the most out of the least: how to build an army of immense potential despite external and internal threats and constraints. Corum helps one to understand how the German army of World War II was able to "fight outnumbered and win."

The book suffers from some irritating flaws, including misidentified officers and a chapter that confuses

operational and organizational doctrine. The main fault of *The Roots of Blitzkrieg*, however, is that it leaves one with the impression that Seeckt and his successors overcame the restraints of Versailles. Corum shows how German industry, with Soviet cooperation, did in fact design, build, and test prototypes of armored vehicles and aircraft prohibited by the Treaty. Yet Germany's defeat in 1945 was due in part to the dismantling of her defense industrial base after 1919. Although able to manufacture prototypes, German defense industry never sufficiently recovered its mass production capacity to meet the requirements of the war of 1939–1945.

On the whole, *The Roots of Blitzkrieg* is a valuable addition to the military bookshelf and can be of great interest to force planners. As of 1 September 1939, the 10,000-man Treaty Army of 1920–1933 had grown into an army of over 3.7 million and an air force of 550,000. The *National Military Strategy of the United States* (January 1992) tasks our own forces with immediate and delayed crisis-response capabilities and with a surge of reconstitution capability. How Seeckt built the Reichswehr for potential expansion should be valuable to those planning our own future forces.

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Hammel, Eric. *Six Days in June: How Israel Won the 1967 Arab-Israeli War*. New York: Scribner's, 1992. 452pp. $30

The Six Day War of 1967 had profound repercussions in the Middle East. For the third time in as many decades, a qualitatively superior, albeit numerically inferior, Israeli force inflicted a crushing defeat on the combined Arab armies. In this latest examination of the conflict, author Eric Hammel analyzes its origins and conduct and concludes that victory was the product of two decades of Israeli military preparation.

Written from a decidedly pro-Israeli bias (the author's grandfather died at the hands of the Nazis, and Hammel uses almost exclusively Israeli sources), the author attempts to justify Israel's preemptive strike on 5 June as a fulfillment of the first rule of war—that an enemy must be judged on the basis of his capabilities and not on the basis of his intentions. Two decades of Arab-Israeli strife dictated that national survival could be preserved only if Zahal (the Israel Defense Force, or IDF) attained a massive qualitative advantage over its adversaries and if the army used all its power decisively in the form of a lightning preemptive offensive designed to take the war into the enemy lands. By June 1967 Syria, Egypt, and Jordan were capable of launching a three-front war against Israel; therefore, Israel had to assume they would. While many readers may question the (im)morality of this logic, Hammel sees few strategic alternatives available to Israel in 1967.

The author makes his greatest contribution in examining the evolution of the Zahal into a world-class military organization. Created in 1949, it struggled to develop an operational doctrine. A host of influential military theorists and practitioners, including Yigal Yadin, Chaim Laskov of the Armored Corps, IDF chief of staff Yitzhak Rabin, and Ariel Sharon all played leading roles in creating an effective military force. Foremost of the reformers, according to Hammel, was Moshe Dayan, whose most significant achievement lay in "identifying encouraging, and institutionalizing the innovations of other younger leaders in the profoundly interconnected doctrine of flexibility and fighting spirit."

The IDF came of age during the 1956 Sinai campaign, which served as a dress rehearsal for war in 1967. Led by Dayan, the IDF carefully analyzed every facet of the war and developed detailed operational plans for the inevitable showdown, which came eleven years later when President Nasser of Egypt ordered his army into the Sinai. The author believes that the lightning victory that startled the world in 1967 was actually preordained, a result of Israeli *elan*, a proven doctrine of offensive mobile warfare, and the complete synchronization of arms and services toward a single objective—the total destruction of Arab military forces.

While Hammel's description of the operational and tactical engagements is superb (particularly the fighting around Jerusalem), the book does contain some shortcomings. The absence of endnotes and the author's over-reliance on secondary sources, save autobiographies of the principal participants, detract from the text. Additionally, the author's obvious infatuation with Zahal leads him to denigrate any capability of Arab forces, so much so he states that whatever Arab operational plans did exist in 1967 were doomed to failure. Moreover, disciples of Clausewitz will cringe as the author laments that the IDF's goals have "sometimes become enslaved to hateful political intentions."

These debits aside, Hammel has written a highly readable, albeit one-sided, popular history of the war that forever changed the political and military face of the Middle East. The Six Day War was Zahal's finest military hour. In the final analysis, Israel's continued existence as a nation rests on the shoulders of Zahal, a military force that demonstrated its military effectiveness during one week in June when it defeated the combined armies of three nations in a modern *blitzkrieg*.

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Lucas, W. Scott. *Divided We Stand*. Kent, United Kingdom: Hodder and Stoughton, 1992. 330pp. $40

A combined Anglo-French airborne force landed in the Suez Canal zone

on 5 November 1956. The main assault force landed from the sea the next day. Their mission was to secure the Suez Canal and return its operation to private European hands. Over two-thirds of France's and England's oil came through the canal, and Egyptian President Nasser's nationalisation of the canal five months earlier was perceived as a direct threat to their national interests. Failing in their efforts to regain the canal or turn it over to the control of the United Nations (UN), the two European governments had joined forces with Israel, hoping to overthrow Nasser in the process. Despite military success, however, they would fail in their objective. Within twenty-four hours of the main force landing, American pressure forced the three nations to accept a cease-fire, and thereat died any chance the Europeans had of achieving their goal. The United States had joined hands with its enemy, the Soviet Union, to stop its own allies, Britain and France, from forcing an Arab leader to accede to their demands. It was an action that strained U.S.-allied relations at the time and has continued to affect that relationship well into the present.

Divided We Stand is a brilliant investigation of the policies, goals, and personalities that shaped the Suez Crisis. The author has done a masterful job of tracing its root causes back to the immediate postwar period. It was here, he argues, and not in the fast-moving days of 1956, that the foundations were laid for the events that would prove so disastrous that November. For the United States, holding communism in check was the main goal, and working with pro-Western nationalist leaders seemed the best method of meeting it. Britain's leaders were more interested in regional stability, because the Middle East and the Suez Canal dominated access to oil supplies in the Gulf and its overseas dominions in Asia. France shared those interests. As an oil-exporting nation (yes, the U.S. exported oil then!), the United States did not.

President Eisenhower's attention and primary focus were on the Korean War, and he delegated Middle East affairs to Secretary of State John Foster Dulles. Secretary Dulles and his brother Allen, Director of Central Intelligence, viewed the Middle East in the context of the so-called "Northern Tier" countries of Iran, Iraq, and Pakistan, which they hoped to use as a bulwark against Soviet expansion in the region. They recognized Britain's preeminence in Egypt, Libya, and Jordan but felt that the leaders in those countries were more interested in maintaining privilege than in ruling effectively. Finally, President Eisenhower believed that the Europeans were too slow to divest themselves of their empires.

This perception shaped Eisenhower's view of European efforts to regain control of the canal that fateful year and ultimately led him to oppose their actions. He and his advisors also had a shorter-term policy goal in

mind. In their eyes, the United States should not antagonize "nationalist forces" in the Middle East by even a hint of approval of "Western" intervention in the affairs of an Arab nation, no matter how much the American government might wish that nation's leader to be overthrown.

Frustrated by what he saw as American inaction, British prime minister Anthony Eden unilaterally approached the French and Israelis to develop a military solution to the problem. Israel welcomed his initiative, for Nasser had just closed the Gulf of Aqaba to Israeli shipping, thereby blocking Israel's oil imports.

Thus the stage was set for the disaster that would bring down a British government and lead France to seek its own independent nuclear deterrent. The Europeans and the Israelis would be forced to withdraw by the end of December. The canal would be returned to Egyptian control, and the Soviet Union, not the United States, would reap the propaganda benefits of having saved the "Arab World" from "Western imperialism." Recriminations echoed throughout Whitehall and the White House.

There are no real heroes or villains in this story, only honorable men trapped by their perceptions and the decisionmaking machineries in which they worked. For Britain, Suez was a watershed for its influence and policies in the Middle East and indeed, perhaps, in the rest of the world. London continued to have global interests and presence, but it had found itself increasingly dependent upon American support to sustain its policies. Eden's decision to act in concert with France and Israel represented a final assertion that Britain did not require American approval to defend its interests. In that, it failed; subsequent British initiatives in the region have been conducted with America's tacit approval, if not active support.

Divided We Stand is a stellar work with many lessons for anyone interested in the Middle East. The author tells a complex story in a clear and convincing manner. The parallels with, and divergences from, the recent situation in the Persian Gulf will intrigue many. It is lacking only in its paucity of maps and tables. It would have been nice to see the force dispositions as they were when the cease-fire was implemented. However, this is a minor flaw in an otherwise outstanding depiction of the unique Anglo-American relationship during one of its most trying episodes.

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Packard, Jerrold M. *Neither Friend nor Foe: The European Neutrals in World War II.* New York: Scribner's, 1992. 432pp. $30

[The views and opinions expressed herein are solely the reviewer's and do not necessarily represent those of the U.S. government.]

Perhaps it should not seem strange that most Americans feel troubled by the concept of neutrality. Only a minority of citizens remember December 6, 1941, the last day the United States was neutral in worldwide military conflict. The Japanese attack on Pearl Harbor torpedoed neutrality and swept the United States into a war that was easily portrayed as a struggle between good and evil.

The Cold War that followed had a similar moral quality, and only since the fall of the Berlin Wall has it seemed necessary to ask what are the proper security foci of the United States and what strategy the U.S. should employ to defend and promote its interests in the world. It may be timely, therefore, to review how some nations defined their interests differently and the strategic options they chose in pursuing their policies.

Jerrold M. Packard, who has previously written books on the British and Japanese monarchies and the papacy, provides a detailed and even-handed history of how European countries successfully pursued policies of neutrality in World War II—i.e., they maintained the essence of sovereignty and were not invaded militarily. The countries were Eire, Portugal, Spain, Sweden, and Switzerland. Packard makes clear that their governments chose policies deliberately to avoid injury after they had concluded that to seek involvement would have made little difference in the overall outcome of the conflict but could have been costly for their countries in terms of lives and property.

Packard makes equally clear that the countries shared two other characteristics: their neutrality was neither passive nor absolute. Sweden and Switzerland both followed strategies of simultaneously bending to meet the needs of Hitler and trying to develop enough strength to make a military attack seem unattractive to him. Packard recalls that "Foreign Minister Christian Gunther expressed Sweden's purpose: 'to make ourselves as indigestible as possible.'" Military preparedness was pursued in tandem with appeasement in the form of allowing German troops and material to transit Sweden in sealed trains to resupply forces in Norway and Finland. Similarly, the Swiss government permitted free rail passage between Germany and Italy even as it prepared against a German invasion by prepositioning explosives in rail tunnels and industrial plants and readied plans to harass Nazi troops from a redoubt deep in the Alps.

While the other successful neutrals lacked the military capacity of Sweden and Switzerland, they did enjoy the geographic advantage of location on the periphery, where Germany felt less compulsion to attack. In the case of Spain, Franco's heart was with Hitler, but his country lay devastated from civil war. Franco had to calculate that more war could have jeopardized not only tranquility but his regime as well. He avoided intervention by outsiders carrying the battle to Spain by

resupplying German naval units only clandestinely while denying Hitler access through Spain to Gibraltar. Winston Churchill later acknowledged that Spain "held the key to all British enterprises in the Mediterranean, and never in the darkest hours did she turn the lock against us." Antonio de Oliveira Salazar, whom Packard greatly admires as "a man who lived solely for his country," held Germany at bay by lobbying Franco against letting Hitler use Iberian territory and by counting on Spain's centuries-old alliances with England for protection.

Packard notes that Eire was the only country among the five that was seriously threatened by invasion from both the Allies and the Axis. Ironically, the issue that kept Eire from participating with the other Commonwealth countries on the side of England—the continued inclusion of the island's six northeastern counties in the United Kingdom—gave London the capacity to surveil and protect sea lanes into the Atlantic without inserting troops into Eire. The effort was aided further by the cooperation of Eamon de Valera's government, which, without revealing its hand to the violently anti-British Irish Republican Army, helped London keep track of German ships in the waters off Ireland by the simple expedient of radioing reports of sightings in the clear, where by prearrangement British monitors could pick them up.

Striving throughout his comprehensive review to explain how the five countries escaped involvement in the war, Packard recognized that "of the score of the continent's neutrals at war's outbreak, only this handful successfully maintained their outsider status." He paraphrases a Swedish historian that "there were more Norways—and Hollands and Hungarys and Greeces—than there were Swedens." Packard's writing is interesting and relevant but flawed by an uneven style that ranges from elegant analysis to colloquial slang. He never tires of reminding his readers which side in the war embodied evil, and his editor let stand a few annoyingly redundant passages.

Nonetheless, the book provides a useful reminder of the proposition that not to become involved militarily is sometimes a strategic option that serves a nation's interests.

AMBASSADOR PAUL D. TAYLOR
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Naval War College

Wiley, Peter Booth with Korogi Ichiro. *Yankees in the Land of the Gods*. New York: Penguin, 1991. 577pp. $14.95

This book tells the story of a fascinating episode in American history, when Japan was opened to the West in the mid-nineteenth century by Commodore Matthew C. Perry. This was the beginning of a collision course that would lead almost inexorably to the attack on Pearl Harbor ninety-one years later.

In developing his thesis that Perry's achievement was much more than an isolated incident, Wiley gives a great deal of the setting necessary to understand this remarkable event, starting long before the event and continuing after it. Seven chapters precede the account of Perry's first visit. They describe the situation in both the United States and Japan at the time of the American visit and lay out the logic of both the American move and the Japanese reaction to it. This was a period not only of great expansion by the United States but of important developments in Japan that led up to the overthrow of the repressive Tokugawa regime. These developments enabled the Japanese to respond positively to the American challenge.

The whole long and involved—and happily very readable—account sheds valuable light not only on questions of military affairs and national security but also on foreign policy objectives and strategy. The account goes a long way toward answering a question that has probably puzzled many: Why were we so hell-bent to stir up what turned out to be a hornets' nest? As we know, the Japan that was awakened was in a comparatively feudal state, and, as we found out, after the opening it would be led by an ultra-militaristic clique bent on world conquest.

What about the Americans, who were building up their empire at the same time? Commodore Perry's action was part of the general expansion of American interests westward to the Pacific and then further throughout that ocean and into Asia itself. The recently completed war with Mexico, in which we simply took from that country the vast lands that we wanted, was a part of that empire-building movement. Thus, the opening up of Japan was not an act of benevolence on our part, far from it. Commodore Perry, not the most nationalistic of Americans of that period, stated, "I shall in no way allow of any infringement upon our national rights [in the Bonin Islands]; on the contrary, I believe that this is the moment to assume a position in the east which will make the power and influence of the United States felt in such a way as to give greater importance to those rights which, among eastern nations, are generally estimated by the extent of military force exhibited. . . . It is self-evident that the course of coming events will ere long make it necessary for the United States to extend its territorial jurisdiction beyond the limits of the western continent, and I assume the responsibility of urging the expediency of establishing a foothold in this quarter of the globe, as a measure of positive necessity to the sustainment of our maritime rights in the east." Some Americans in fact set no limitation to what was meant by "manifest destiny."

On the other hand, as the author makes abundantly clear, starting with the very title he chose for his book, the Japanese were not weak either in the matter of national pride and national self-esteem. Indeed, the

Japanese have a strong claim to the championship in this field, making the serene confidence of the Chinese, to whom all outsiders were barbarians, or the Nazis, with their claims of the Germans as a superior race, seem modest in comparison. Hirata Atsutane put it this way: "Ours is a splendid and blessed country, the Land of the Gods beyond doubt, and we down to the most humble man and woman are the descendants of the gods. . . . Japanese differ completely from and are superior to the peoples of China, India, Russia, Holland, Siam, Cambodia, and all other countries in the world, and for us to have called our country the Land of the Gods was not mere vain-glory." Let's concede the point, since it's hard to top it. Gods are indeed superior to mere mortal men, to all men of all other nations.

Perry's efforts extended over a period of time and included a second visit. In the same period, the British, the French, and other Western nations were also attempting, in their own ways and for their own purposes, to "open" Japan. So were the Russians. The Japanese reaction to these moves was mixed, since the Japanese were at a crucial turning point in their history. Many wanted to continue the Tokugawa regime's policy of complete isolation, which required the murder both of foreign sailors who happened to be shipwrecked on the Japanese coast and of any Japanese who had been abroad and were thus infected with dangerous thoughts. Those Japanese with a greater knowledge of the external world realized that their island empire would simply not be allowed to continue in the old way much longer, for Westerners were carving up Africa and Asia into colonies and Japan seemed to be next. All were alarmed by Perry's black ships, an image that remains vivid among Japanese to this day.

Those Japanese who were better acquainted with the world ultimately prevailed, perhaps just in the nick of time. Their reaction was far from surrender. In 1857 Hatta Masayoshi saw it in this way: "I am therefore convinced that our policy should be to stake everything on the present opportunity, to conclude friendly alliances, to send ships to foreign countries everywhere and conduct trade, to copy foreigners where they are best and so repair our own shortcomings, to foster our national strength and complete our armaments, and so gradually subject foreigners to our influence until in the end all the countries of the world know the blessings of perfect tranquillity and our hegemony is acknowledged throughout the globe."

As the reader will find out in a concluding chapter, there are signs that Japan, following its economic triumphs over the U.S. and others, may be now ready to abandon its current low-profile posture. Theodore H. White is quoted as saying, "Perhaps we did not win the war, perhaps the Japanese, unknown even to themselves, were the winners." And a

former Japanese cabinet minister, Ishihara Shintaro, is reported to have said in 1989, "The American nuclear umbrella is just an illusion as far as the Japanese people are concerned. . . . The time has come to tell the United States that we do not need American protection. Japan will protect itself with its own power and wisdom."

JOHN BEX
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Shapley, Deborah. *Promise and Power: The Life and Times of Robert McNamara.* Boston: Little, Brown, 1993. 734pp. $29.95

As Secretary of Defense, Robert Strange McNamara was one of the most controversial public figures of the 1960s, in particular in his role as Vietnam decision-maker. Deborah Shapley's long book on the controversial McNamara covers the entire life of the man, from his early years through the post-Defense years, most notably as president of the World Bank. Given the interests of readers of this review, as well as space limitations, my commentary will focus on his period in the Pentagon.

The author, a Washington journalist and investigative reporter, is well qualified for the task she has assumed. Her research is impressive, and the many interviews she had with McNamara are somewhat of a first. The book itself is in fact the first complete account of the subject's life, though there have been a couple of other efforts, both more focused and less critical in tone.

McNamara was born in San Francisco in 1916 and graduated from the University of California at Berkeley in 1937. He received a master of business administration degree at Harvard in 1939 and the following year joined the faculty there, specializing in the application of statistical analysis to management problems. During World War II he served as a commissioned officer in the Army Air Corps, working as a staff officer in statistical control. After the war he and nine other statistical control experts hired themselves out to the Ford Motor Company. He rose rapidly in the firm, and when he was elected its president in 1960, he was the first to hold that office who was not a member of the Ford family.

In that year there was also elected a new president of the United States, and he, as had been evident throughout his campaign, had a keen interest in foreign and defense policy. Like all presidents, John F. Kennedy had his own views on how these interrelated policies should be managed and the kind of persons he wanted for his chief advisers. Kennedy had offered Robert Lovett the post of either secretary of state or of defense, but he declined them both. Lovett, however, subsequently recommended Robert McNamara for Defense.

When McNamara became Secretary of Defense in January 1961, the department was more than thirteen years old and had had seven secretaries. From a loose federal arrangement in the beginning, the secretary's

control had gradually tightened. Eisenhower's 1958 Reorganization Act provided for even greater central control, but the Act was basically untapped when McNamara was sworn in.

His imprint was made largely through his management approach. He was the watershed secretary, and the Department of Defense has never been the same since. He was the first since World War II to achieve true civilian control of the Pentagon below the presidential level.

The image that emerges from Shapley's book is the standard one, of both a good and a bad McNamara. On the good side, McNamara played a major and successful role in the development of national strategy and defense policy in the first three or four years of the tenure. He attempted, with a high degree of success, to make American military power more responsive to U.S. foreign policy and national security objectives. While rejecting a counterforce strategy, he did oversee the development of a U.S. deterrent that could survive a Soviet attack and still inflict unacceptable losses on that country. He also strengthened the command and control facilities of our strategic retaliatory forces, thus increasing the flexibility with which they could be employed.

Vietnam is another story. From 1961 on, he was Kennedy's "action officer" on Vietnam matters. To quote Shapley: "By his high profile, his statistics, flying trips, press conferences and optimism, he identified himself with the war. McNamara gave John Kennedy's limited partnership in this remote part of the world its aura of invincible, thoroughly American success." With Kennedy's assassination and Johnson's assumption of the presidency, there was no change. The author comments that McNamara "choreographed his own public transfer of loyalty to Lyndon Johnson." In the case of Vietnam this was done with enthusiasm. As he told a reporter in 1964, "I don't mind its being called McNamara's war. In fact I'm proud to be associated with it."

As time went on McNamara became disenchanted with the possibility of winning the war, and as it dragged on he became more and more conscious of what the war was doing to the American homefront and to a generation of young people. But the failure in Vietnam was in large part a McNamara failure. There were, of course, major domestic constraints imposed on his management of the war. The Great Society dominated Johnson's thinking, and the president wanted no public debate that would jeopardize it. This meant no debate on a reserve call-up and no debate on the budget—which in turn meant that for a time there was concealment of what actual costs would eventually be. Still, McNamara cannot absolve himself for his part in getting America into the Vietnam quagmire in the manner in which he did. Except for Kennedy and Johnson, he more than anyone else led the country into that war.

Eventually he broke with Johnson, who perceived McNamara's disenchantment with the war and moved him to the World Bank. At his peak, McNamara had been a strong cabinet officer and at the same time a key presidential officer in that he accurately represented the president's views to the defense bureaucracy. In this sense, he was intensely loyal to Johnson. Perhaps he was too loyal—who knows what would have happened had he articulated his misgivings earlier?

Of course, the fault was on the military side as well as on the civilian. Had the senior military stood up to Lyndon Johnson and Robert McNamara and laid on the line their misgivings about such issues as failure to call up the reserves or the incremental strategy being pursued, there is no telling what the result might have been. At the least there would have been a public debate before it was too late, and at best either the war would not have been fought or it would have been fought quickly and decisively without tearing apart American society.

Shapley's final judgments on all this are somewhat ambiguous. "That is the glory and tragedy of Robert Strange McNamara: He feels he must decide and then act, whether to save South Vietnam then or to save the planet today. Cooler heads may recognize the limits of their powers and decline to change the world. They may refrain from the constant manipulation McNamara engaged in and still does. Not he. For better or worse McNamara shaped much in today's world—and imprisoned himself."

The book is nicely written and covers an impressive number of issues. Perhaps too many—the reading is a bit tedious, and at times somewhat superficial. Though this work will probably not be the definitive biography of McNamara, it will be the best for many years, and it is well worth reading.

DOUGLAS KINNARD
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Tucker, Robert C. *Stalin in Power: The Revolution from Above, 1928–1941.* New York: W.W. Norton, 1990. 707pp. $29.95

Events occurring in the Soviet Union since 1985—Mikhail Gorbachev's glasnost and perestroika and his initiatives to end the Cold War, severe economic decline, and the centrifugal forces of national self-assertion, all accelerated by the failed coup of August 1991—have diminished the military and ideological threats to the West and, consequently, should facilitate a less biased study of Russian history during the Soviet period. As the Cold War recedes further, so too will the unnatural consensus that has existed in the Anglo-American school of Soviet studies.

One of the deficiencies of mainstream Sovietology has been its assumption that the uniquely dreadful and excessive policies hatched in the neurotic mind of Joseph Stalin

(forced, reckless collectivization and industrialization, the widespread campaigns of terror, the decapitation of the Soviet military, and his megalomaniacal aspirations toward totalitarian control) were merely the continuation or logical development of the legacy of Vladimir Ilich Lenin and the Bolshevik revolution. Although Professor Stephen F. Cohen (in his 1975 paper "Bolshevism and Stalinism") exposed the flaws of this consensus view, it still thrives today. Given this consensus, Robert C. Tucker's antithetical views about Stalinism are quite noteworthy.

A professor emeritus of political science at Princeton University, Tucker produced his first volume about Stalin, *Stalin as Revolutionary, 1879–1929*, in 1973. The sequel under consideration here not only was "in preparation for over fifteen years" but also has incorporated new evidence that has surfaced recently. Lest the reader overlook the subtitle of his book, Tucker repeats his essential conclusion in the preface: "The Soviet System took shape under the impact not of one revolution but of two."

In assessing the legacy of Lenin, Tucker properly attaches equal significance to Lenin's later writings and policies, which advocated gradual, antibureaucratic reform and a New Economic Policy (NEP). Stalin (and subsequently mainstream Western Sovietology) ignored Lenin's gradualist prescriptions, preferring instead to cite the earlier, more radical passages of the Bolshevik leader as justification for his own extreme measures. However, one need only believe it plausible (if not axiomatic) that prescriptions for revolutionary seizure of power might differ from those for actually ruling to understand the different strains of the Leninist legacy. These differences have not escaped Tucker, who adduces evidence to demonstrate the reformist nature of Bolshevik rule under Lenin. He then proceeds to demonstrate how these norms were demolished by Stalin.

Stalin, Tucker believes, suffered from a psychoneurosis brought on by childhood beatings administered by his drunken father. As a substitute for the self-hatred they generated, Stalin created an ideal self. Seeing himself in a heroic light, Stalin emulated Peter the Great (in forcing the Soviet Union to become a world power), Ivan the Terrible (by purging the party aristocrats, the Old Bolsheviks), and the revered Lenin (by creating socialism in the second October Revolution). Tucker's close attention to Stalin's voracious reading of history adds weight to this interpretation.

Stalin's need to secure his ideal self had a much darker side, however, which compelled him to obliterate any unflattering reminders of his real self. Therefore, when his reckless campaign to collectivize and industrialize the Soviet Union resulted in chaos, breakdowns, and famine, Stalin simply denied the famine, suppressed the peasant uprisings, put industrialists on trial for "wrecking,"

and subsequently shipped many of these unfortunates to labor camps (thereby industrializing and urbanizing the Soviet East). The bungling and scapegoating upset many party members, especially the Old Bolsheviks who had personal knowledge of Stalin's many mistakes, excesses, and undistinguished past. Since their very presence was a standing rebuke to Stalin's ideal self, they had to go. Many were tortured into confessing that they were traitors, wreckers, plotters, and would-be assassins—the very crimes committed by Stalin. Subsequently most were executed or sent to the labor camps (the "Gulag"). Such confessions allowed Stalin to remain blameless.

The terror was long-lasting and wide-ranging. At its worst, during 1937–38, four and one-half to five and one-half million "enemies" were arrested; 800,000 to 900,000 were executed (Tucker accepts the figures from a recent study by D.V. Volkogonov). To ease the burden of processing the new prisoners, those already in the Gulag were placed on restricted diets that would ensure they were quickly worked to death.

The Soviet military was decapitated by the terror. During 1937–38, "over 3,000 naval commanders and 38,679 army men were ordered shot." Of the 101 members of the Soviet high command, ninety-one were arrested, at least eighty were executed. The terror struck down not only army and navy commanders but also fleet and corps commanders.

Finally, given the logic of the terror, the executioners and torturers themselves had to be shot or sent to the Gulag.

Stalin's revolution extinguished not only many independent minds but also independence of mind. It transformed Soviet society into a "limp, fear-stricken mass" where *skloka* ("base, trivial hostility, unconscionable spite breeding petty intrigues") became the norm. Stalin also destroyed the Communist Party "save as an organ of his autocracy subordinate to his police."

In summation, Tucker concludes, "However confusing these things were for contemporaries, they need not confuse later historians. Stalin's was a Bolshevism of the radical right. As such it was wayward, deeply deviationist, and questionably Bolshevist save insofar as it could and did lay claim to all that was harsh, repressive and terrorist in Lenin's legacy. . . . As a Bolshevism of the radical right, Stalin's Russian national Bolshevism was akin to Hitler's German National Socialism."

This work is excellent in its balance, nuance, and painstaking scholarship. This reviewer was disappointed only by the lack of evidence and emphasis in support of Tucker's contention that foreign (external) concerns were primary under Stalin. One need not dispute his conclusion that Stalin hoped to advance socialism through territorial expansion (by exploiting conflicts between the "imperialist" states) to argue that Tucker's own evidence and emphasis support

the primacy of domestic issues, the construction of "Socialism in One Country," in Stalin's scheme of things.

WALTER C. UHLER
Philadelphia, Penna.

Volkogonov, Dmitri. Harold Shukman, trans. *Stalin: Triumph and Tragedy*. New York: Grove Weidenfeld, 1991. 642pp. $29.95

General Dmitri Volkogonov's book is a powerful biography of one of the central figures of twentieth-century history. It is primarily a political biography, but readers will find that the author also addresses aspects of diplomatic and military affairs. Needless to say, any work that improves our understanding of Stalin is noteworthy.

Volkogonov, currently an adviser to Boris Yeltsin, is not the typical Stalin biographer. A retired Soviet Army colonel general, former deputy chief of the Main Political Section of the Soviet military and former head of the Institute of Military History, Volkogonov served his country admirably and loyally, despite the fact that his own father was arrested and executed during Stalin's purges in the late 1930s. Volkogonov, who also earned a Ph.D. from the Lenin Military Academy, began to question the system, and its history, in the 1950s. The advent of Mikhail Gorbachev allowed him to complete his work, and the orginal Russian-language edition of *Stalin* appeared in the Soviet Union in 1988. Volkogonov then turned his attention to a comprehensive study of Lenin and, at the Institute of Military History, began writing and directing work on a planned ten-volume, glasnost-era Soviet history of the Second World War.

Unfortunately, in the spring of 1991 Volkogonov's honesty and revisionism led to confrontation with senior Soviet military leaders, including Marshal Sergei Akhromeyev (then Mikhail Gorbachev's military adviser), General Mikhail Moiseyev (then chief of the general staff), and Dmitri Yazov (then minister of defense). One Soviet official, upset by Volkogonov's quest for truth, chided the Institute of Military History's director, "The documents should be used according to the purpose they are intended for." But Volkogonov, repelled by this challenge to history, told his accusers, "We don't need sugary patriotism, we need the truth." Volkogonov resigned, announcing that he could not "write a false history."

The author's sense of openness and honesty and his unparalleled access to official military and Communist Party archives set this biography of Stalin apart. According to Volkogonov, some of the triumphs achieved by the Soviet people in the 1930s and 1940s are attributable to the system, although many others were achieved in spite of, not because of, Stalin's handiwork. And of course Volkogonov recounts in detail the tragedy of a people condemned to suffer and languish under the weight of the cruel,

ineffective, Stalinist super-bureaucracy.

The book's strongest sections are those that deal with the decades of the 1930s, 1940s, and 1950s. Until the early 1930s, many of the Bolsheviks' opponents, including dissenters within the party, left the Soviet Union, some voluntarily, some not. Their accounts have long provided Western historians with a fairly accurate picture of the workings of the Soviet system in its early years—for example, Lenin's deathbed doubts about Stalin's character. However, once Stalin completely established his personal political control, few escaped the Soviet Union with their lives, and little inside information found its way to the West. Thus, while Volkogonov's biography offers little that is new about the dictator's rise to power or the early revolutionary period in Russia, the author does provide details of the purges, the war, and Stalin's final years that are chilling in their revelations.

The account is replete with insight into Stalin's paranoia, brutality, decisionmaking, conduct of war and peace, and obsession with power. Volkogonov describes how Stalin's terror gained a momentum of its own and spread uncontrollably throughout Soviet society. The author has discovered the lists of the condemned, initialled by Stalin himself. We read Stalin's comments written in the margins of reports on the progress of the purge trials. Volkogonov recounts Stalin's desperate efforts to keep war from engulfing the Soviet Union and testing the resilience of what was, in fact, a politically shaky regime. He quotes Ministry of Defense documents to show that Marshal Georgi Zhukov, chief of the general staff in early 1941, proposed a preemptive strike against the Germans as they concentrated along the Soviet border. But Stalin remained committed to a defensive strategy, and moreover, one focused on the southern part of the front. Then, Volkogonov paints a remarkable picture of a shaken Stalin ready, once the war began, to surrender vast tracts of Soviet territory to buy peace. Finally, in 1945 and 1946 Stalin shaped domestic and foreign policies that ensured that the wartime triumphs of the Soviet people would be lost amidst the tragedy of Stalinism. Of Churchill's famous March 1946 "Iron Curtain" speech Volkogonov writes, "This was true. Soon after the war, Stalin had taken energetic measures to reduce all contact with the West and the rest of the world. A curtain, whether of iron or ideology, had decidedly come down. . . ."

Most of the details in Volkogonov's book are not revelations to those familiar with Soviet history. However, it allows us to move from the realm of educated speculation to knowledge based on official sources. Churchill described it as an enigma: "Russia . . . is a riddle wrapped in a mystery inside an enigma. . . ." Thanks to honest, brave individuals such as Dmitri Volkogonov, Russia's

often dark and painful secrets are now being revealed.

Despite its strengths, this work is not without flaws. Its prose and organization are uneven, although whether the fault lies with the author or editor-translator is unclear. Volkogonov also seems uncertain about just where to place responsibility for the Soviet tragedy. Was everything solely Stalin's fault? Or were the problems, in part at least, attributable to the system he inherited from Lenin? Volkogonov appears to be a man going through a personal and extremely painful catharsis as he calls into question the legitimacy of the very system he served for most of his adult life.

Volkogonov's *Stalin: Triumph and Tragedy* is an extremely poignant and important work. Anyone with an interest in the history of Russia, the Second World War, the early Cold War period, the twentieth century, or the story of human progress (and regression) will find this biography engrossing.

MICHAEL A. PALMER
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Kennedy, Paul. *Preparing for the Twenty-first Century*. New York: Random House, 1992. 428pp. $25

Students of strategy will view the publication of Paul Kennedy's book with great anticipation. After all, his previous book, *The Rise and Fall of the Great Powers*, turned out to be of interest to many more than scholars; selling nearly a quarter of a million copies, it had a profound impact on the view Americans hold of the world around us. *Rise and Fall* looked at the grand sweep of history and the forces which cause nations to gain and lose strength, and it triggered widespread debate on whether or not the United States had reached its apogee and was following earlier powers into the second rank of nations.

Preparing for the Twenty-first Century picks up some of those same themes of growth and decline but goes beyond the constraints of the previous book to look at the forces at work both beyond and within national boundaries, and even forces mutating those boundaries. Readers who enjoyed the parts of *Rise and Fall* where the author speculated on present and future trends will be especially pleased with this text, which does quite a bit of sketching of directions that the future might take. Kennedy, as should not surprise those who see him as a "don" of the "declinist school," is rather gloomy about our prospects. In his prologue he evokes Thomas Malthus, the dour British economist of the eighteenth century, in a discussion of the perils of increasing population. However, while glum, Kennedy does not give in to defeatism, nor does he portray the problems he outlines as immutable. Instead he refers to them as challenges, which he encourages leaders of the world to face.

The bulk of the work is divided into two major parts. The first, "General Trends," looks at forces currently

reshaping the world community: the world's ever-burgeoning human population and the strain it causes; the communications and financial innovations that are creating a "borderless world"; agriculture and biotechnology and their promises for the future; robotics and automation and their impact on industry; threats to the environment; and finally political trends affecting nation-states and their place in global society. The one surprising omission in this section is the lack of discussion on energy and natural resources. The second part, "Regional Impacts," looks at the different regions of the world and how each of the trends previously discussed will affect them. Kennedy sees Japan and Europe as perhaps the most successful in meeting the challenges of the future, with the former Soviet Union and the developing world least successful and the United States muddling along somewhere in between. Kennedy's major theme in the regional section, however, is that no nation or area of the globe is immune to the broad issues such as population, productivity, and environmental concerns that affect us all, regardless of our locations.

In his conclusion, Kennedy summarizes the challenges which face our leaders and chides them for attempting to explain issues away rather than solve them. He briefly discusses areas where solutions can be found: in collective action, in changing the role of women in societies, and political leadership. Kennedy ends with a somber warning that if the challenges he describes are not dealt with, we will bear the responsibility for the resulting problems.

There has been much talk in recent years about taking broader views of what national security entails and about looking beyond the traditional litany of military and strategic threats. Those who wonder what new threats might fall under that broader umbrella of national security will find this book an excellent primer.

ALAN L. BROWN
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Gallie, W.B. *Points of Conflict: Understanding War.* New York: Routledge, 1991. 116pp. $14.95

Newell, Clayton R. *The Framework of Operational Warfare.* New York: Routledge, 1991. 186pp. $30

The first title under review defies simple categorization. It is at once a work of political and military philosophy, and a tract for dealing with the problems of nuclear deterrence in the post–Cold War world. It would be more appropriately titled "Understanding Deterrence." Its author is a professor emeritus of political science at the Cambridge University. However, American readers must not confuse this title with their own vision of a political scientist; Gallie is much more a political philosopher. He was president of the Aristotelian Society in Great Britain in the early 1970s, and before taking his chair at Cambridge

was professor of logic and metaphysics at Queen's University, Belfast. His previous works include *Philosophy and Historical Understanding* (1964) and *Philosophers of Peace and War* (1978).

Gallie's argument is easy to follow. He begins with the proposition that "man is a war-making animal." He then asserts that each of three proposed solutions to the problem of nuclear weapons—political, moral, and technical—is inadequate. He then surveys the broad history of war, dividing it into three periods: an era of classical war up to and including Napoleon; a century of "problematic" war; and a near-century of total war, extending from the Great War to the present. This analysis is followed by an assertion that war, not only in the case of its individual manifestations but also in the case of its existence as a political-social phenomenon, is *inherently* escalatory. This leads to the obvious danger in the nuclear age that war's inherent tendency to escalate will result in the obliteration of the world as we know it. To mitigate against this possibility Gallie provides two solutions. The first is the formation of a power condominium by Russia and the United States to prevent nuclear proliferation and convince the three other declared nuclear powers that their nuclear weapons are superfluous. The second is the establishment of a discipline called "survival studies," which would synthesize present war and peace-studies curricula.

In this reviewer's opinion, the argument is seriously flawed. Gallie sets up straw men in his political, moral, technical paradigm. He says that this paradigm argues for a synoptic view, but he fails to provide the synopsis. Gallie confuses Clausewitz's assertion that *in the purely theoretical realm* war is inherently escalatory with his observation that *real* war comes in two distinct types—those in which the objective is the overthrow of the adversary and those in which the object is merely incremental advantage. But the central defect of the work is in its logic: if one accepts Gallie's propositions that man is a war-making animal and that war is inherently escalatory, there are only two inescapable alternatives. Either you must accept the inevitability of general nuclear war, or you must put forth a way to change human nature. Gallie is unwilling to admit the former and neither of his proposed solutions promises the latter. Overall, therefore, *Understanding War* is an interesting exercise in political and military philosophy, but one as badly argued as it is titled.

The Framework of Operational Art is just as advertised: an outline for understanding war at the operational level. Its author, Clayton Newell, is a retired army officer and former member of the Army War College faculty who also served in the Office of the Chief of Military History. He has written several articles for *Parameters*, the most notable of which advanced the notion that at the operational level

of war the practice of logistics has an element of art as well as science.

The structure of the book is elegant in its simplicity. It comprises a preliminary chapter that examines the study of war and also an analysis of three perspectives of war—strategic, operational, and tactical. There are also two appendices, respectively outlining the format and providing the history of the U.S. Army's five-paragraph field order. The heart of the book parallels the structure of that instrument. That is, it argues that the framework for analyzing war should consider the following issues from each of the three perspectives mentioned above; how situations are understood, how objectives are set, how war is conducted, how war is supported, and how war is controlled. The work concludes with a chapter on the utility of war as an instrument of national policy.

Among the major themes addressed are the chaos inherent in the nature of war and the dilemmas faced by commanders attempting to impose order upon this chaotic activity.

In setting up this form of argument and presenting these insights, it is obvious that the author has profited greatly from his experience of teaching operational art at a senior service college. Unfortunately, however, the high promise of this simple but comprehensive framework is marred by faulty execution. The style is awkward, frequent non sequiturs leave the reader puzzled as to the author's meaning, and the development of the argument within the individual chapters is difficult to follow. The historical analyses are generally valid, but they are maladroitly forced into the analytical framework. This reviewer found the most useful part of the book to be the appendix that traces the origin of the five-paragraph field order back to a single sentence in the German field service regulation of 1887. On the whole this is a promising work that fails to achieve its potential for want of forceful editing.

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Cimbala, Stephen J. *Force and Diplomacy in the Future.* New York: Praeger, 1992. 243pp. $47.95

According to the publisher's blurb, *Force and Diplomacy in the Future* "is an initial effort to assess the post–Cold War international environment in terms of its implications for the relationship betweeen force and policy . . . based on a retrospective look at U.S., allied NATO, and Soviet doctrine strategy. . . ." Right away, there is a problem—while there can be no question of the urgent need for new studies of the relationship between force and policy in the post–Cold War era, Cimbala's narrowly focused overview of the evolution of forty years of U.S. and Soviet thinking about the utility of nuclear weapons and strategies of deterrence provides an absurdly limited base for any informed speculation on the nature of "force and diplomacy in the future."

This book could more accurately have been titled "The Problem of Nuclear Deterrence after the Breakup of the Soviet Union," but even that would be misleading. Nowhere does the author deal with deterring nuclear weapons outside of the context of the U.S.-Soviet confrontation, although the end of the Cold War will certainly mean an increase in the number of second and third-rank states possessing such weapons even as the stockpiles of the major powers are reduced. How might nuclear deterrence be practiced in such a world? The author gives us no clue.

Similarly slighted, despite their obvious importance to any discussion of the future relationship between force and policy, are such issues as the increasing proliferation of racial, religious, and ethnic conflicts around the world and the question of what circumstances might justify U.S. or UN intervention. Somalia and Bosnia-Herzegovina were not in the headlines when this book was written, but the Gulf War and plenty of other non–Cold War trouble spots were. Here again, other than to observe that "the issues with which Europe was forced to deal prior to the Second World War will reappear in the aftermath of a socially reconstructed Soviet Union, a defunct Warsaw Pact, and a newly reunited Germany," the author has little more to offer his readers.

All of which is not to say that there is nothing of value in this book. Readers willing to overlook the misleading title and wade through Cimbala's sometimes clunky, jargon-ridden prose (his editor should be shot) will find not only a concise and knowledgeable summary of the evolution of Cold War deterrence theory but also a competent overview of twentieth-century European history, one that at least suggests what underlying problems and trends, long submerged or obscured by the imperatives of the Cold War, are most likely to bedevil us in the decades to come.

Dr. Cimbala, a political science professor at Pennsylvania State University, has previously published such books as *The Soviet Challenge in the 1990s* (Praeger, 1989), *Conflict Termination in Europe: Games against War* (Praeger, 1990), and *Strategy after Deterrence* (Praeger, 1991). Each of the works dealt with some facet of the central strategic dilemma of the Cold War: the nuclear standoff between the United States and the Soviet Union. It is clear that Cimbala began this book with the intention of making it the fourth in this series. Given that Start II has not been ratified, much less implemented, he should have kept to his original plan and resisted choosing a title that promises more than he delivers.

HEATH TWICHELL
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Blank, Stephen et al. *Responding to Low-Intensity Conflict Challenges.* Alabama: Air Univ. Press, 1990. 318pp. (No price given)

Ewald, John. *Treatise on Partisan Warfare*. trans. Robert Selig and David Skaggs, Westport, Conn.: Greenwood, 1991. 192pp. $45

With the collapse of the Berlin Wall, the restructuring of the old Soviet empire, and the changing economic, political, and social environment of the United States, the past military force structures, doctrines, and strategies require review. The comfort and familiarity of the bipolar world which many of us grew up understanding is now behind us. Quietly and without much fanfare, the Western powers have won the Cold War. Therefore, the next decade's wars may not have the strategic character envisioned by force planners of the past forty-five years.

The emphasis of strategists, force planners, and others involved in the management of force has shifted from large-scale conventional warfare and nuclear deterrence to low-intensity conflict (LIC). Though numerous works over the centuries have dealt with conflict at this level, these recent additions contribute to a field of military study now increasingly gaining importance.

Published under the auspices of the United States Air Force's Center for Aerospace Doctrine, Research, and Education (CADRE), *Responding to Low-Intensity Conflict Challenges* presents five case studies that examine the doctrines, strategies, and force structures of the LIC environment. This historical approach to understanding low-intensity conflict scenarios attempts to describe strategies for each case while emphasizing certain overall force structures, doctrines, and strategies that appear successful for all LIC situations.

The five authors are eminently qualified scholars on the various regions presented. Each one has taught, published, or served in a variety of capacities, both in the military and in governmental positions. The first article, "Low-Intensity Conflict in the Middle East," by Lewis Ware, presents an overall view of the LIC environment and then presents the cases of two states in the Middle East—Israel and Algeria. Several valid but often overlooked points are presented in this essay.

One key point repeatedly stressed throughout this work is that LIC is *not* perceived by the belligerents as low in intensity, since oftentimes the survival of each belligerent is at stake in the conflict. Ware further states that LIC is different from conventional conflicts in two important respects. The first is that "LICs result more from conditions of widespread socioeconomic and political unrest than from issues of national sovereignty." Secondly, "LICs are protracted; the choice of weapons, strategy, tactics, and employment of forces is asymmetrical; and the insurgents disregard the classical logic of set-piece engagements."

Ware's historical studies of LIC in Israel and Algeria are well presented, but his conclusions on strategies and doctrines for the state of Israel provide

little in the way of offering a solution to the problems in the Middle East or how to win in the LIC environment. After carefully defining the various political and religious backgrounds of both sides, the author details the deep-rooted contradictions inherent in that part of the world. However, he fails to differentiate between Judaism, the Israeli populace, and the state of Israel, which is critical to understanding LIC in the Middle East.

His description of the Islamic threat—"What one hears from all the Islamists . . . is that only a permanent uprising can eliminate Israel, and all other goals must yield priority"—does not support his argument for greater police forces at the local or village level. His emphasis on changes in the economic, social, and political workings at both the "micro" and "macro" levels of society disregards the tremendous religious roots of this conflict. Ware further confuses the reader by prescribing forces and doctrine to *control* the threat to the state of Israel instead of providing methods to *win* this LIC.

Four tenets of basic LIC doctrine proposed by Ware imply specific actions for all states involved in such conflicts. These four propositions are: (1) politically the threat is permanent, while militarily it is protracted; (2) doctrine must acknowledge the predominance of the political dimension over the military; (3) external actors are becoming more important in the resolution of LICs, which may make unilateral solutions by the belligerents impractical; and (4) there must be fundamental reform of the political systems on both sides if the conflict is to be terminated. These four tenets apply equally well to the other four cases presented in this book.

The four remaining case studies deal with Soviet forces in Afghanistan; Guatemala and El Salvador; the Philippines and Indonesia; and LIC in the African context. Each case provides an adequate historical background and strategic analysis and insight into the variations and similarities of LIC throughout the underdeveloped world. With the exception of the first article's shortcoming that has been noted, this book is an interesting and enlightening source for the student of low-intensity conflict. More emphasis on the religious problems inherent in certain LIC scenarios would have made this book complete. It is a useful primer to members of the national security community and others interested in the resolution of this type of conflict.

A reminder that LIC—by whatever name—is not an entirely new phenomenon is a work by Robert Selig, an eighteenth-century historian, and David Skaggs, historian of the American Revolution and author on military history. They have provided the first English translation of Johann Ewald's *Treatise on Partisan Warfare*. It is a significant contribution to the history of the Seven Years War and the American Revolution, as well as a detailed look into the recruiting,

training, doctrine, and tactics of light infantry.

First published in 1785, Ewald had just completed eight years in North America. Respected for his abilities as a *jager* captain, he had seen his courage and talent for light infantry tactics tested in almost every major battle fought in North America from 1776 to 1784. Destined to attain the rank of major general in the Danish army, Ewald's firsthand knowledge of partisan warfare lends immense credibility to this work.

Of the book's two sections, the first is an introductory essay invaluable to a full appreciation of the work. Its only drawback is the inclusion of almost every contribution of Ewald to modern-day military historians and strategists.

The second section is the treatise, which is divided into eleven chapters and an appendix. Discussed are light infantry procedures from recruitment and discipline to ambushes and retreats. From a tactical perspective, few of today's light infantry forces will be able to utilize Ewald's basic tenets; however, topics such as light infantry training, organization, and leadership techniques transcend the passage of time.

Students of military history will enjoy the detailed analysis of what constitutes revolutionary war and of the distinctive technical features of the American Revolution. Ewald's astute understanding of the relationship between the conflict, the government, and the military would later be espoused by Clausewitz.

This work is valuable not only to the military historian but also to those who need to understand how to lead, organize and employ light infantry forces in a revolutionary war. It is also a highly interesting story, easily read and understood by even the newest student of warfare.

GARY A. TROGDON
Major, U.S. Air Force

Wander, W. Thomas and Arnett, Eric H., eds. *The Proliferation of Advanced Weaponry: Technology, Motivations, and Responses.* Washington, D.C.: American Assoc. for the Advancement of Science, 1992. 330pp. (No price given)

This book is stimulating and frustrating. Its international perspectives challenge commonly held assumptions of the American defense community, especially those which allow the United States to have weapons and take military actions that are considered illegitimate by at least some within the world community. The issues addressed here are complex and in general are discussed adroitly, with substantial insight. However, it is astonishing in this modern computer age to find a serious book without an index. Also, though the book is oriented toward regional conflict, its logical constructs and vocabulary are reminiscent of the strategic deterrence discussions of the Cold War. Finally,

the title is somewhat misleading. "Advanced Weaponry" suggests much more than chemical, biological, and nuclear devices and the missiles, mainly ballistic, that deliver them; but the book restricts itself to essentially these weapons. In fact, an underlying premise of the book seems to be that the particular weapons it treats will dominate the issues both of when military conflict will occur (or be deterred) and what the outcome will be. Although advances in other technologies may well have much impact on future conflict, the case supporting the chosen premise is not presented explicitly.

The essays were written by an international group of analysts in conjunction with the Seventh Annual Colloquium of the American Association for the Advancement of Science (AAAS) on Science and Security, "The Challenges for U.S. and Regional Security," held at the Georgetown University Conference Center in Washington, D.C., on 30 October 1992. The two dozen contributors have impressive credentials. A third are from countries other than the United States. The American contributors have ties with major universities (Massachusetts Institute of Technology, Harvard, Stanford, etc.), think tanks (Brookings, RAND, etc.), disarmament agencies, congressional staffs, and the Lawrence Livermore National Laboratory.

The book has five major sections. The first provides perspectives on the proliferation of weapons of concern to the book, from both the American and developing-nation points of view. The second section addresses advanced weaponry in the developing world and covers cruise missile and space systems as well as chemical, biological, and nuclear weapons for ballistic missiles. The third section examines why nations buy, build, and sell arms, with essays specifically addressing China, India, the Commonwealth of Independent States, Iran, Israel, and the European Community. The fourth section examines proliferation implications for U.S. policy, considering possible rationales for American use of nuclear weapons, defenses against ballistic missiles, intelligence requirements to support nonproliferation policies, and the U.S. role in creating multilateral constraints on the international arms trade. The final section looks at direct international responses to proliferation through the United Nations and other avenues as well.

Problems of adjusting the arms industries of the United States, Western Europe, the states of the former Soviet empire, and developing nations to the evolving realities of the 1990s are treated with appreciation for the complexities involved. It may surprise some to discover that the U.S. is now the dominant exporter of military systems, accounting for half of the world trade in conventional weapon systems. This is due more to drastic reductions in foreign sales by states of the former Soviet Union than to an

increase in the volume of U.S. arms sales abroad.

Material in the book generally is balanced, relevant, and fair, although several of the authors manifest a definite orientation toward a particular side of an issue. The most obvious of these is Thomas Morgan in his discussion of defense against ballistic missiles. His ideas are more provocative than compelling. For instance, the economic argument that an adversary with ballistic missiles can bankrupt those who employ active defenses against the missiles seems flawed to me; his example assumes continuous defense of every target within range of the adversary's missiles.

Several times writers raise the question of double standards for members of the United Nations Security Council and for developing nations in regard to the legitimacy of having advanced weaponry in their arsenals. Why is it acceptable for the U.S., China, etc., to have nuclear weapons, but not for Brazil, Iran, etc.? Before long-term multilateral restrictions on the proliferation of advanced military technology can be very effective, this question will have to be answered more satisfactorily than it has been to date.

This book, which reads easily and is well organized, does the defense community an important service—not by providing answers to proliferation policy issues but by clarifying a large number of the issues and identifying relationships among them. It is a valuable contribution to the literature and a convenient summary of pertinent background information.

DALE K. PACE
The Johns Hopkins University

Kaufman, Yogi and Stillwell, Paul. *Sharks of Steel.* Annapolis, Md.: Naval Institute Press, 1993. 176pp. $39.95

Yogi Kaufman was the skipper of my first submarine, the *Scorpion*. Though I was only an ensign, it is an understatement to say that we clashed at times—but I survived, much better for the wear, and now count Yogi among my professional mentors and friends. When I was asked to do this review, I called him and said it was true that if one waited long enough, the chance to "get even" would arrive; he recommended that I start the review with that observation.

At first glance, *Sharks of Steel* is but another glossy "coffee table" picture book. A clue that it is something more, however, is the gold sticker in the corner that advertises it as a companion piece to the recently aired Discovery Channel four-hour miniseries of the same name, "starring" none other than Yogi himself. Although it stands alone as an informative and aesthetically pleasing document, to appreciate fully the significance and worth of this beautiful book one should savor its photos and study its text after watching at least part of the miniseries.

This book is a documentary unto itself. With photos, artwork, and detailed text, it discusses World War II, the era when the United States submarine force firmly established itself as a first-class combat force, then the birth of the nuclear navy under Admiral Hyman G. Rickover, and then moves into a detailed disclosure of our current force of nuclear attack submarines and the ballistic missile deterrent force. "Disclosure" is a carefully selected word, for only a few years ago many of the photographs would have been stamped "Secret, No Foreign Dissemination." The visual grand finale of the work is the set of pictures taken of a Russian Typhoon-class submarine when Admiral Kaufman was invited to visit that huge ship at Severomorsk on the Kola Peninsula. You will have to view the miniseries, however, to see footage of Yogi's interview with the skipper and the interior of this massive submarine with (honestly) its small swimming pool/large hot tub!

The authenticity and credibility of this book are beyond reproach. There are none of the factual errors that so often mar attempts of this sort. Those who know Yogi, and particularly those who have served with him, would have expected nothing less. The commanding officer of a diesel submarine, the USS *Cavalla*, before attending nuclear power training, Yogi served as executive officer of the *Seawolf*, commanding officer of the *Scorpion*, the commissioning commanding officer of the *Will Rogers*, and the commanding officer of the Nuclear Power Training Unit in Arco, Idaho. He was also a prime mover of the Ultra Large Missile Submarine project, which evolved into our present *Ohio* class of Trident submarines. His personal knowledge gained from such broad experience is the core around which *Sharks of Steel* is woven.

In addition to the technical detail that both photos and text convey, Yogi, his son Steve, and Paul Stillwell also manage to capture the most elusive but most critical dimensions of this nation's submarine force—the extraordinary training of superior officers and men, their professionalism and camaraderie, and the sacrifices that have been and are still being made by their loved ones during consecutive months and aggregated years of total separation.

Many who read or saw *The Hunt for Red October* likely thought the story entertaining but somewhat "hyped"—no machine could be that capable, no people that talented. As the submarine force inches its way out of the "Where'd you go? Nowhere! What'd you do? Nothing!" closet, works such as *Sharks of Steel* will demonstrate that both Tom Clancy and Paramount Pictures significantly *understated* the case for material and personal excellence. If one is a submariner, he should own this book. If he is not, he particularly should.

JAMES PATTON
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Fluckey, Eugene B. *Thunder Below: The USS* Barb *Revolutionizes Submarine Warfare in World War II.* Univ. of Illinois Press, 1992. 444pp. $27

This account of five war patrols of the USS *Barb*, told by her captain, who earned four Navy Crosses and a Congressional Medal of Honor in this command, offers the excitement of the best of fiction. This inspiring true story of World War II is told in such human terms that the events themselves become background. *Thunder Below* is also an outstanding textbook on leadership. Nearly every page shows examples of how to lead successfully. In addition, a number of times superiors are shown being led in the direction that this *Barb* captain felt they should go.

Why did this naval hero have such extraordinary success in World War II? The highly skilled crew of this submarine was well led (which probably could be said about most World War II submarines), especially during the last third of the war, when commanding officers came with combat experience, the torpedoes worked, and proven attack doctrine was in place.

No doubt luck played a part, but probably no more than it does for the team that wins the Superbowl. After all, in five patrols the *Barb* had dozens of encounters with the enemy. The high percentage of successes achieved is a mark of superior performance. The expression the author uses, "Luck is where you find it," accurately describes the contribution that factor made to the success of *Barb*'s operations.

However, another element may have been Commander Fluckey's deep curiosity. Two incidents illustrate this. While *Barb* patrolled between the Chinese mainland and Formosa, her captain began wondering why his patrol area was so devoid of shipping. He began to study charts of the coastal waterways along the China coastline, where he found that except for Hai-tan Strait, where the water was too shallow to allow ships to stay inshore, it was feasible for ships to move north and south without entering waters deep enough for submarines to operate. To find out if that shallow stretch had been dredged, he queried the Commander, U.S. Naval Group China directly and learned that dredging had been done. The tale of how this new intelligence was exploited is a most exciting one. A second example is that before his final patrol, Commander Fluckey believed he could cause more harm to the enemy by adding a newly developed rocket launcher to the *Barb*. To win over the "no-sayers" took a lot of perseverance on his part. He also used every bit of influence he had before he managed to arm the *Barb* with rockets. By effectively employing this new weapon system, he justified the faith his superiors had in him.

A fourth important factor was the resiliency that came from the author's ever-present sense of humor. This, coupled with his humility of spirit,

supported all on board the *Barb* through dark, fearsome moments. With this support, confidence grew until there was no room for either self-doubt or despair.

Thorough research into U.S., Japanese, and Chinese records makes *Thunder Below* accurate and complete. It also reflects the desire to "do it right the first time" that was a hallmark of the *Barb*. As one sailor put it, "We try to do our jobs all the way." How better to achieve success than to take this approach?

This story gives interesting insights into how the *Barb* was run. We are told why crewmen who had been Boy Scouts were given added consideration when choosing a team for a specially hazardous mission. Also, fresh new meaning to the tradition of "splice the mainbrace" is provided.

For those who wish to learn while reading for enjoyment, this book is a must.

JACOB V. HEIMARK
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Bryn Mawr, Pennsylvania

Chant, Christopher. *Small Craft Navies*. New York: Sterling Pub., 1992. 160pp. $29.95

Small Craft Navies is a unique and interesting reference work that fulfills two separate and distinct functions. In its first section it provides a lively and entertaining look at the development of fast patrol boats and fast attack craft, beginning with what is generally recognized as the world's first attack craft, the Royal Navy torpedo launch *Lightning*, which entered service in 1876. The second half provides a comprehensive technical directory of more than one hundred designs of fast patrol boats and fast attack craft, as well as illustrations of almost all the boats and craft featured.

Part One begins by making the important distinction between fast patrol boats and fast attack craft. The former are generally fitted with only light armament (such as machine guns, or cannon of less than 40mm) and minimal sensor and fire control suites. The latter are usually of higher speeds and possess much heavier, longer-range armament that can include antiship missiles, guns of up to 76mm, antiship torpedoes, and antisubmarine warfare weapons. The author faithfully retains this distinction throughout the book.

Part One moves quickly through the early years of patrol and attack craft and mostly discusses the post–World War II era. It ties together the development both of these craft and the weapons they carried (particularly the antiship missiles) that have made these vessels so formidable. Where appropriate, this section speaks to the effectiveness of the craft and weapons of various navies, offering information usually seen only in detailed accounts of battles or campaigns.

The author also attempts to define the rationale determining which boats or craft each navy operates. For example, he notes that China is the world's largest operator of fast combat craft

and explains how this is a natural outgrowth of both the geography of the Chinese coastline and the types of threats that the National People's Liberation Army-Navy might typically have to deal with. The author also presents information of a more generalized nature explaining many of the factors that go into a nation's decision to purchase and operate these boats and craft.

Part Two of this book presents an excellent technical directory. Rather than organize the patrol boats and attack craft by country, the author has arranged them alphabetically by type or class, starting with the Turkish AB class and ending with the Polish *Wisla* class. Within each class, the craft are further broken down by nation so that the reader can get an immediate sense of how many of the type exist worldwide and then how many exist in each particular navy. Because of this organization, *Small Craft Navies* is a particularly useful reference book. For example, this arrangement enables us to learn that the Soviet Osa I and Osa II classes comprise over three hundred craft owned by a total of twenty-two nations. A review of this section also reveals that the People's Republic of China is a major exporter of attack craft, with four major classes—the Hainan, Huchuan, Shanghai, and Shantou—exported to a wide variety of nations. The Shanghai class alone is featured in thirteen navies.

Overall, *Small Craft Navies* is a lively and interesting book. Although its subject matter would initially appear to be highly specialized and of rather narrow appeal, its importance is apparent as all navies move into an era of littoral warfare so well articulated, for the U.S. Navy case, in ". . . From the Sea." As these craft increase in numbers and importance, so too will the value of this already useful book.

GEORGE GALDORISI
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USS *Cleveland* (LPD 7)

Kelly, Orr. *Brave Men, Dark Waters: The Untold Story of the Navy SEALS.* Novato, Calif.: Presidio, 1992. 288pp. $22.95

Pity the Navy Seals. Despite a half century's heroic service as the Navy's frogmen, they've failed to garner the spoils of their Army brethren: a hit song, a John Wayne movie, and a green beret ostentatiously sanctioned by the president of the United States.

They do have Bob Kerry, the former Seal whose Medal of Honor was his main calling card as a presidential aspirant. Unfortunately, what the general public knows about the Seals otherwise is hardly flattering: a botched jump that left four dead off Grenada; a calamitous assault on a Panamanian airfield that left another four dead and nine wounded; the awkward arrival in Somalia, where grease-faced Seals crawled out of dark surf into the bright lights of television crews. Their reputation was not helped by the best-selling memoir of former Seal commander Richard Marcinko, *Rogue Warrior.*

A balanced history of the Navy's frogmen was overdue but not easy to achieve. As Orr Kelly, the veteran military reporter for *U.S. News & World Report*, notes in his preface, the Seals are obsessed by secrecy and are not always their own best witnesses. One Seal warned Kelly that if he did not like the book, "I'll rain on you."

Kelly should be safe. As his title suggests, *Brave Men, Dark Waters* is a paean to the under-appreciated Navy commandos, from their bloody baptism in the surf of Tarawa fifty years ago to their largely unheralded contribution to the brilliant deception that convinced Saddam Hussein an amphibious landing was coming in Kuwait.

This book crackles with enough war stories, some revealed for the first time, to keep the most jaded reader turning pages. But Kelly is too modest when he says his goal was to "help today's and tomorrow's SEALS to know themselves better." The Seals seem to know who they are—it's their bosses who seem confused.

Kelly traces the Seals' difficulties to the hectic days after Pearl Harbor, when two overlapping and sometimes contradictory roles emerged for the frogmen. One originated in the need for a reconnaissance capability against enemy beaches and harbors, another in the demand for waterborne sabotage and demolition. First came the Scouts and Raiders, and then the Underwater Demolition Teams (UDTs). Each had different capabilities based on the objectives of the moment and theater of assignment, a dichotomy that has plagued the units to this day despite their consolidation in 1962 as one big Sea-Air-Land family unit.

Nothing prepared them very well for Indochina, where the CIA first used them to train Vietnamese saboteurs sent north. As Irish Flynn, a lieutenant who later became the first Seal admiral, said, "it was an act of very great arrogance" to assume the Seals could teach tricks to soldiers who had been fighting the communists for a decade. Otherwise, except for a few submarine-based forays so ill-fated that they must be read in full to be appreciated, the Seals were employed in commando raids against Viet Cong units in coastal areas and swamps. After a year mucking around, one disillusioned lieutenant wrote headquarters, "This is not for us," and advised they be pulled out. You can imagine the answer.

Antiterrorism was added to the Seals' quiver in the 1980s, and Kelly offers a thoroughly balanced antidote to *Rogue Warrior*. Yet, for Seal Team Six, "Grenada was the first opportunity to show what it could do." The team tasked to rescue that island's governor general had to be rescued itself; yet another team, trying to capture a radio transmitter, was overwhelmed and had to fight its way to the sea. All this after four Seals had died in a parachute jump into a gale.

The author seems to agree with those who blame "the failure of senior commanders to understand the role of the SEALS . . . and use them properly" for such disasters. After Panama,

some said that tasking a multi-platoon Seal force to secure Noriega's airfield was "unfair," not suited to "SEAL doctrine," etc. "So what?" answered Admiral George Worthington, the senior Seal commander. The Seals, he said, were the best America had to offer at the moment.

One can see his point. But then why have special forces at all? *Brave Men, Dark Waters* should be required reading for anyone concerned about the future of the Seals. After reading it, however, you will not feel confident that anything will change. It is not in the nature of the beast.

JEFF STEIN
author of
A Murder in Wartime

Marcinko, Richard with John Weisman. *Rogue Warrior.* New York: Pocket Books, 1992. 339pp. $22

You will not find this book on the Navy's official professional reading list. As a matter of fact, it is the sort of book that public affairs officers wisely avoid questions about. *Rogue Warrior* is the autobiography of Commander Richard Marcinko, commissioning commanding officer of Seal Team Six, the Navy's counter-terrorist organization. Marcinko formed and commanded Red Cell, a unit designed to use terrorist tactics in testing the security of naval installations. Then he was found guilty, after two trials, of conspiracy to defraud the government. To a great extent, the book is Marcinko's way of getting even with those officers—mostly retired—who thwarted or challenged his professional or personal ambitions. Yet despite (or perhaps because of) the author's motives, this book is less an embarrassment to the Navy as an institution than an indictment of particular personalities, both patrons and enemies, who launched an unguided missile into the most politically sensitive of tasks: counter-terrorism. The lesson it contains goes much deeper than the jacket blurbs, innuendoes of broken faith, or sanitized details of Seal operations. I would recommend it for the reading list as a category of its own—"bureaucratic wars of the ego."

One cannot accurately review the book and avoid reviewing the person. No one can deny that Richard Marcinko is a very brave man. He is also (despite a twenty-one-month prison sentence that he describes as a vacation) a success story; a high school dropout with an obviously unhappy childhood who becomes a frogman, a naval officer, a Seal, and a three-time commanding officer. Unfortunately, he carries with him what his collaborator, John Weisman, politely describes as "warrior's hubris" but others might refer to as the utmost egotism. It is evident in this book that Commander Marcinko's combat experience never taught him that making enemies for fun is a deadly game, particularly in peacetime. In his eyes there are no peers and no rules. There were few below the rank of three stars whom he would not insult or ignore.

Blaming the negative reactions to his snubs and end-around maneuvers on "conventional attitudes" towards unconventional warfare, Marcinko portrays himself as an agent of change—the one who made the Navy accept new roles for Special Warfare and built one of the top counter-terrorism organizations in the world. He argues passionately that he operated as he did to support his men and develop unit integrity.

Perhaps this is true, but it is hard to understand why his profane and public disdain for the "system" was either necessary or productive. Even before he launched into his greatest orgy of bureaucratic enemy-making, the "system" had already provided his creation, Seal Team Six, with more training ammunition than the *entire* Marine Corps. Part of Marcinko's defense lay in the fact that he was a true "shooter," a Vietnam and Cambodia combat veteran operating in a world of pencil-pushers. But like its protagonist, the book is clearest when it describes death-defying missions against defined enemies. In the murk of budget battles and empire building, everyone else appears an enemy. Even other combat veterans are viewed as mere pencil-pushers if they have alternatives to Marcinko's methods.

Although autobiographies can be mere attempts at self-aggrandizement—*Rogue Warrior* being a fine example—the good ones unwittingly reveal much of their subject's inner character. In this respect, Marcinko's book is a classic. In creating Seal Team Six, Marcinko broke or bent many rules and that had brought him success. In operating Red Cell, he disregarded even more rules. This not only caused his promotion to be revoked but brought on an investigation by the Naval Investigative Service. Marcinko is still unable to discern that the personal qualities, attitudes, and methods necessary for the creation of the Seal team did not fit the task of running the Red Cell. More importantly, he does not admit to himself what eventually becomes clear to the reader: that while Marcinko the warrior was a reflection of his own courage and total commitment, Marcinko the commander was the creation of three and four-star patrons who let a useful instrument run amok. The establishment of Red Cell was more a bureaucratic method by seniors to keep Marcinko in the Navy than an organization with a practical purpose. That Red Cell agents, comprised mostly of Seals trained by the master, could penetrate typical naval base security and embarrass those responsible seems hardly a revelation. Apropos of this superfluous mission, Marcinko claims to have operated the unit primarily out of a bar in Alexandria, Virginia. Persistent rumors of physical abuse of victims of Red Cell "training" are not mentioned in the book.

Why do I recommend this book—which, by the way, has more four-letter words per page than your average soft porn? First, it contains illuminating (albeit vetted) depictions of Seal

training and operations and will probably be a choice (albeit one-sided) source for future naval historians to blend with more objective material. Second, it reveals fascinating (and mostly unflattering) vignettes of key national security officials of the 1980s and makes (unsubstantiated) charges of criminal negligence on the part of the senior Foreign Service Officer responsible for security of the bombed Beirut embassy in which sixty-three personnel were killed. However, it is primarily important for what it teaches our future warrior-leaders: beware the temptation of an unrestrained ego. Perhaps (as if Tailhook were not enough) it will also remind senior officers that they are responsible for protecting subordinates from their own worst instincts. The downfall of the successful commander, like the successful rebel, occurs when he or she can no longer distinguish between what is good for one's organization and what is good for one's pride. Commander Marcinko was both commander and rebel, but his bold victories have been overshadowed by his downfall.

SAM J. TANGREDI
Lieutenant Commander, U.S. Navy
Falls Church, Virginia

Leckie, Robert. *The Wars of America.* New York: HarperCollins, 1992. 1,281pp. $50

Robert Leckie, a superb narrator, military historian, and prolific author, set himself a formidable task in this book. In one volume he has sought to place the wars of America in perspective. His object is to make his students better citizens by improving their knowledge of the good and bad in our history. In the main, Robert Leckie succeeds.

Historians shoulder an awesome responsibility. They must be precise, accurate, and reasonably objective. They are the reader's surrogate in sifting through the primary source material and in differentiating information from primary, secondary, and hearsay sources. The narrator comes into conflict with the icons of fact while seeking to breathe life into the record of the past. Here also, this reviewer believes that Robert Leckie succeeds.

Leckie escorts the reader from Samuel de Champlain's war against the Iroquois in 1609 to the aftermath of the Persian Gulf War in 1991. Curiously, the author seems to be on firmer ground up to World War I than with more recent events. One feels a degree of superficiality in the discussion of events that led to World War II: little note is taken of the prescient moves of George Marshall, Dwight Eisenhower, and Brehon Sommervell in creating the logistic architecture for victory. One senses also in Leckie's treatment of Korea and Vietnam a degree of the polarization in opinion and attitude that occurred after those eras.

This review is intended for an audience with strong interests in the sea services of the United States. There is an intriguing thesis advanced on page

623, in the chapter devoted to World War I: "Although great wars are usually fought and won on land, they are often decided at sea." It is left to the reader to develop examples from America's wars. There are a fair number. Robert Leckie's reference is to the outcome of Jutland and the effective removal of the German High Seas Fleet as a challenge to allied control of the seas. The author also notes that the German resort to unrestricted U-boat attacks on shipping was a major factor in America's entry into World War I.

The colonial wars, the American Revolution, the War of 1812, and the American Civil War all provide examples of the strategic importance of naval acitivity on the high seas, along the coasts, and in inland lakes and rivers. It is quite thrilling to place the battles of Lake Champlain and Lake Erie in the strategic context. The "Anaconda Plan" for the North's conduct of the Civil War relied upon seapower as the enabling component. Not only did the Union blockade drastically reduce the Southern capability to sustain its fighting forces, but it also led to the Confederate diplomatic failure to gain recognition in Europe. The naval component of the campaign to open the Mississippi was decisive.

Unfortunately, it is left to the reader to supply the context of Mahan's "fleet-in-being" in developing appreciation for the role of naval forces in America's wars. Robert Leckie provides enough substantive detail for the reader to make such analyses and judgments. The discussions of Midway and Coral Sea fall somewhat short of drawing the strategic lessons in the context of Mahan.

The masterful vignette of individuals and events is the hallmark of Leckie's style. On page 280 is an account of the Battle of the Chippewa, where the esprit of the U.S. Army was born and which is memorialized by the gray uniforms of the United States Military Academy. On page 329, Leckie recounts a gruelling march past Mexican adobe huts, whose fine, white dust caked the marching men, whom the cavalry called "adobies" and then "doughboys."

Personalities emerge and sparkle: from Zachary Taylor, Winfield Scott as a young commander, George Dewey, John J. Pershing, right up to Norman Schwarzkopf. Robert Leckie deserves great praise for sharing his knowledge of the broader significance of the battles he discusses. It is said, for instance, that Canada reached nationhood in the magnificent stand of the Canadian Division at Vimy Ridge. The United States Marines and soldiers galvanized the jaded allies by their performance at St. Mihiel, Chateau Thierry, and in the Argonne. It was Pershing who insisted that the Americans fight as a national command, and it was Commander Joseph K. Taussig, USN, who, after a stormy transatlantic passage, signaled the entrance of the U.S. Navy into World War I with his response to the British admiral's question about his readiness: "Ready for sea when fueled."

This is an "armchair" book. Keep it handy. Dip into it. Ponder both glorious and not-so-edifying chapters in our military history. Pay also attention to what Leckie says in his epilogue. Our military history is not over.

ALBERT M. BOTTOMS
Charlottesville, Virginia

Sears, Stephen W., ed. *World War II: The Best of American Heritage*. Boston & New York: Houghton Mifflin, 1993. 280pp. $9.95

Sears, Stephen W., ed. *Eyewitness to World War II: The Best of American Heritage*. Boston & New York: Houghton Mifflin, 1993. 308pp. $9.95

Many present readers of history were taught to love the subject by *American Heritage* magazine. Even those put off by its eventual (and grudging) acceptance of advertising may admire the quality, interest, and variety of its articles, the distinction of many of its contributors, its careful fact-checking and effective graphics, and its long association with the revered historian Bruce Catton. Stephen W. Sears, editor of these two titles from "The American Heritage Library," is a former editor and a distinguished historian himself. His byline figures prominently in these two collections, and properly so (as it does also in a recent collection of "the best of" *Military History Quarterly*). With so promising a field of choices and an editor so well qualified to choose, it is no surprise that both of these paperbacks (reissuances of 1991 hardbacks) are quite worthwhile.

World War II is a collection of pieces about that war, *Eyewitness* of recollections of some of its participants. The same selection principles seem to have been applied in both: all services, theaters, "warfare disciplines," and most combat arms are represented. In fact, there is some overlap; for instance, the horrific experience of the USS *Juneau*'s survivors appears in one book and a similar ordeal after the loss of the cruiser *Indianapolis* in the other. There are dividends in such duplication, however: a former civilian contractor on Wake Island recalls with understandable pride his contribution to the island's dogged defense, but we learn in the other volume that he would have been one of the few civilians there who did not (also understandably) run, hide, and steal food.

A large fraction of the selections do not touch on combat or do so only obliquely (e.g., the story of the first, not so well known, Suribachi flag-raising). Both volumes cover the home front; there are oral histories of several women in "war work," and an analysis of the underlying purpose of gas rationing (automobile tires, not gasoline, required conservation—but fuel appeared easier to ration than did tires). The writing throughout is measured, and (the *Juneau* and *Indianapolis* aside) there is little that is very shocking.

There are, of course, memorable descriptions of operations and combat action. The 1970s movie *A Bridge Too Far* would make a closely fitting visual aid for Sears's account of the Arnhem airborne and armored attack, and Charles Cawthon's reminiscence of landing on Omaha Beach evokes the sensations of an inexperienced young officer trying to hold his end up in chaotic circumstances. (Cawthon's story, incidentally, is one of two that point to a third *American Heritage* anthology, not under review. Cawthon tells us in his first sentence that his National Guard battalion was "directly descended" (albeit in a different army) from the Stonewall Brigade of the Civil War, and he never lets us forget it, nor apparently did he himself at the time. General James M. Gavin, writing of the Sicily campaign, is reminded of U.S. Grant at Shiloh and invokes the "shades of gallant Pelham!"—that is, Major John B. Pelham, celebrated Confederate artillerist.)

These, then, are interesting and entertaining books. They are, however, popular history after all—for which many professional historians will dismiss them. Is there value here for the professional military reader? Yes, a great deal, but much of it takes some digging out. There is value in many intriguing bits of information: B-17s flying so low (raiding the Ploesti oil fields) that their guns, meant for use against fighters, directly engaged targets on the ground; German shells made by Czech forced labor that contained not explosives but apologetic notes; Japanese intercontinental balloon-bombs, of which some three hundred were launched (killing a woman and five children); American batborne incendiaries that never saw service; and light spotter aircraft operating from plywood flight decks on tank landing ships. There are also cautionary tales touching upon current doctrinal concerns such as "friendly fire" (e.g., the repeated Allied bombing of troops assembled for the post-Normandy breakout). We can also see, if we stand back a little, an excellent example of how different arms, working closely together, can achieve astounding synergy. Hughes Rudd, who would become a well known journalist, served in Italy directing the fire of the 93rd Field Artillery Battalion from an aircraft that cost less (by a third) than its own shipping crate. But he and the artillerists formed a system, an organism—Rudd speaks of his "firing the 93rd"—of such efficiency and effectiveness that the Germans dared not shoot at his defenseless aircraft, because the 93rd's counterbattery fire would be on target, right now.

The term "popular history" is not itself pejorative, or need not be. Read these books, and read them together, *Eyewitness* first; the most jaded student of World War II will find pleasure and profit.

PELHAM G. BOYER
Naval War College

Fussell, Paul, ed. *The Norton Book of Modern War.* New York: W.W. Norton, 1991. 830pp. $24.95

"Never think that war, no matter how necessary, nor how justified, is not a crime." Hemingway's view of war sums up the theme of this masterful work. With this thick volume Paul Fussell, a respected literary historian, attempts to ensure that this important message is not lost. That war is an ugly, brutal business is brought home through the compelling words of ninety-seven writers whose thoughts and observations about the twentieth-century wars they have witnessed make compelling reading. Depictions of the horrors of the modern battlefield drawn from the works of such literary masters as A.E. Housman, Erich Maria Remarque, George Orwell, and Studs Terkel are arranged alongside the simple, eloquent thoughts expressed in letters and diaries of the men who fought and died in the two world wars, the Spanish Civil War, and the wars in Asia. It is a story of pain and courage, of humanity and inhumanity, of faith and lies, and above all of life and death.

This is a book that goes to the very heart of war in a way that is often impossible in this era of instant electronic communications. Carefully crafted phrases from literature and interspersed actual descriptions of life and death on the battlefield make war real in a way that televison can never do. Television merely shows images to the eye—this book speaks to the human soul. It should be near every strategist in arms or in armchair, to keep clear the costs that will be imposed whenever war becomes the chosen option.

THOMAS-DURELL YOUNG
U.S. Army War College

Thou has frighted the word out of his right sense, so forcible is thy wit.

William Shakespeare
Much Ado About Nothing
(Act V, scene 2)

There are some people who apparently prefer to remain crazy.

J. V. Stalin
Teheran Conference, November 1943

Recent Books

Cossolotto, Matthew. *The Almanac of Transatlantic Politics, 1991–1992.* McLean, Va.: Brassey's (US), 1991. 429pp. $32

This reference work was conceived in 1987 as a political information handbook for Nato insiders; during its preparation, however, the world reshaped itself, and so, therefore, did the book. It is now a political information handbook for the twenty-one Western European and North American ("WENA") democracies. This is the first, tentative attempt at an annual series; it is very comprehensive, however, and when they said "You could look it up," they meant here. For each of these nations (and Eastern Europe as a whole), there is a political snapshot as of the last election (press time was December 1990) plus tabulated data of every kind from the nation's official name to its "Big Government Index" and the first verse (in English) of its anthem. There are also extensive treatments of Nato, the EC, and the European Free Trade Association (by which headings the nations are arranged) and briefer ones for the Western European Union, the Conference on Security and Cooperation in Europe, the Nordic Council, and others. The author is a long-time congressional staffer, an authority on European affairs, and a writer on international matters in the likes of *Christian Science Monitor.*

Dupuy, Trevor N., et al., eds. *The Harper Encyclopedia of Military Biography.* New York: Harper, 1992. 834pp. $65

The distinguished military historian Colonel Trevor Dupuy is joined in editing this biographical reference work by two colleagues from previous books: Curt Johnson, a frequent author, and David L. Bongard, a research specialist. These gentlemen and twenty-nine other contributors have produced a collection of about three thousand biographical sketches of military commanders and theoreticians. The brief remarks (two hundred to a thousand words each) are in a standard format and provide, in addition to basic information, such items as major wars and battles, assessment of "character, abilities, and contributions," alternative spellings, and even nicknames. The selection is comprehensive and by no means exclusively modern, or Western. Its offerings run from Abahai (seventeenth-century Manchu emperor) to Elmo Zumwalt, and in between include not only the standard figures but such varied entries as Callicratidas (a Spartan admiral), Sir John ("The Auk") Auchinleck, Han An-Kuo (of the second century B.C.), Nuri as-Said (nineteenth-century Iraqi general and statesman), and "Old Baldy" Ewell, Confederate States Army.

Koburger, Charles W., Jr. *The French Navy in Indochina: Riverine and Coastal Forces, 1945–54.* New York: Praeger, 1991. 160pp. $39.95

This is a short and fascinating history of France's "khaki" navy in the rivers, canals, and deltas of Indochina. The subject matter is particularly apropos in our current era of joint and coalition warfare and our navy's strategic emphasis on "littoral warfare." Captain Koburger focuses on the achievements, tactical ingenuity, and material improvisations of the French "Dinassaut" (Division d'Infanterie Navale d'Assaut) riverine forces in their fight against the Viet Minh. The brunt of the French Navy's combat effort was carried out by a variety of standard and converted World War II amphibious craft and small patrol vessels assigned to the Dinassaut flotillas. These flotillas penetrated the delta areas of the north and south, where the majority of the population lived and where the major transportation arteries were rivers and canals. They were not constrained by weather, and their tactics exploited their mobility and organic firepower. The helicopter today provides mobility and other capabilities far in excess of that available to the Dinassauts; however, there remains a need for small combatant craft to patrol and interdict in riverine and coastal areas. This excellent book serves well also as a primer, one that offers a nostalgic gallery of the simple, heroic, and utilitarian landing craft of the World War II era.

Parrish, Michael, ed. *Soviet Security and Intelligence Organizations 1917–1990: A Bibliographical Dictionary and Review of Literature in English.* Westport, Conn.: Greenwood, 1992. 704pp. $75

Michael Parrish, associate professor at Indiana University and an author on Soviet military and military-historical matters, has devoted ten years to the preparation of a "bio-bibliographical guide" to what Robert Conquest in his foreword calls the "Archimedian lever by which a small group of fanatics were able to move the whole Soviet world." The bulk of this reference work constitutes nothing less than a historical "biographical dictionary" of some 4,000 mid-level and senior officials and functionaries of "the organs": members, of course, of the KGB (and its Border Troops) and GRU but also of (among several others) the Cheka, NKVD, GPU, OGPU, SMERSH, MGB, MVD, and even of the Internal Troops and Militia. Also given are CPSU (Party) personnel visibly associated at some point with the security apparatus. This main list (and its addendum) of "poker-faced bullies" ranges from Chernenko and Yezhov to the likes of Drugov, F.P., "anarchist member of the Cheka Collegium." It is complemented by an annotated bibliography of English-language books on the subject, appendices (including a list of sources), and the editor's bleak assessment of the nature of the security apparatus and its relation to the Soviet system.

Pearcy, Arthur. *U.S. Coast Guard Aircraft Since 1916.* Annapolis, Md.: Naval Institute Press, 1991. 330pp. $34.95

The introductory chapter provides a brief history of Coast Guard aviation; it is followed by chapters on aircraft markings and insignia and on the Coast Guard aircraft serial system. In its present state, the U.S. Coast Guard has the seventh-largest naval air arm in the world and operates over two hundred fixed and rotary-wing aircraft from nearly thirty air stations. The bulk of this work profiles the different types of aircraft in service over the years, each discussion accompanied by one or more photographs along with a detailed description of the aircraft type. All entries are arranged alphabetically by manufacturer and include information on wing span, height, cruise speed, engine specifications, takeoff power, gross weight, and other technical data.

Baxter, Colin F. *The Normandy Campaign, 1944: A Selected Bibliography.* Westport, Conn.: Greenwood, 1992. 184pp. $45

The compiler of this reference work, the ninth in Greenwood's "Bibliographies of Battles and Leaders" series, is an associate history professor at Tennessee State and the author of a number of articles on military history, especially British and World War II. His purpose is to provide "a reference and research guide for the student, scholar, and general reader." As do other volumes of the series, *The Normandy Campaign* begins with a historical narrative of the event and an assessment of types of sources (atlases, dissertations, museums, etc.). Unlike some, however, it is not simply a list of tabular entries (though it does have one); rather, the heart of the book is an extended bibliographic essay that "evaluates and critically reviews" the pertinent literature. The essay has subsections on Churchill, Stalin, planning, air and naval preparations, Operation "Fortitude," the invasion itself, and the ensuing battle for the hinterland; it ends with a look at the state of and prospects for research in this area. There follows a listing of selected source materials; the two main parts of the volume, essay and list, are cross-referenced. Index.

Sears, Stephen W., ed. *The Civil War: The Best of American Heritage.* New York: American Heritage, 1991. 244pp. $9.95

Readers of *American Heritage* know that the Civil War is one of that magazine's major interests; with former editors like Bruce Catton and, more recently, Stephen Sears, it could hardly be otherwise. The eighteen articles reprinted here (actually, one appears for the first time) are of several types. At the broadest level, the place of the war and of its historiography in the national experience is addressed by Catton and James McPherson; Allan Nevins (writing in 1956) presents a view once current that the war was entirely avoidable. There are battle narratives for Antietam and Chancellorsville—hard to follow without maps for

those not already familiar with the ground. There are studies of great figures (and one less great): Lee, Grant, George H. ("Pap") Thomas, and Belle Boyd. A number of articles address striking but seldom-discussed subjects or incidents: the extent of Unionist sympathy in the South (Carl Degler), the "Great Locomotive Race," the Confederate bank robbery in Vermont, the execution of a black Union soldier for refusing to serve for less pay than whites, the Chambersburg raid, and the threat that Sherman's army ("hardier, knottier, weirder" than the Army of the Potomac) was thought to pose to its own government as it approached Washington in May 1865 for the victory parade. On the maritime side, there is the sinking of the *Alabama*, and, of great interest to naval readers, a *Monitor* v. "*Merrimac*" account that details the astounding (and remarkably informal) effort that produced the Union ironclad just in time.

Shulsky, Abram. *Silent Warfare: Understanding the World of Intelligence*. McLean, Va.: Brassey's (US), 1991. 222pp. $19.95

Abram Shulsky, former staff member of the Pentagon and the Senate Select Committee on Intelligence, has done a fine job of clearly explaining the basics of the intelligence business. Covering collection, analysis, political pressures, covert action, and counterintelligence, he puts it all in straightforward context for both the general and the policy reader. This is a first-rate primer without political bias or cant. As the intelligence priorities of the United States shift from one well defined opponent to what has been described as an "incoherent threat," Shulsky's work will be of increasing value.

Ψ

The Naval War College Review *is listed in* Ulrich's International Periodicals Directory, *microformed by University Microfilms International (UMI) of Ann Arbor, Michigan, and is indexed both in the* Air University Index to Military Periodicals *and, selectively, the* American Foreign Policy Index. *A bound 1948–1991 index of all* Review *feature articles is available from the editorial office; it is updated annually in the Winter issue. Selected book reviews are reproduced in* Flashpoint: Military Books Reviewed by Military Professionals. *An index of book reviews is in preparation.*

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An index of feature articles published in the Naval War College Review *from 1948 through 1991 can be requested from the editorial offices at the address or telephone or fax numbers given in the inside front cover of this issue.*

Ψ

From the September-October 1980
Naval War College Review

12 August 1980

RAdm. Edward F. Welch, Jr., USN
President, Naval War College
My dear Admiral:-

This is a footnote to Doctor Doyle's article on the ORANGE PLAN in the May-June 1980 issue of the REVIEW.

In the Summer of 1940 I was executive officer of the CALIFORNIA, then located in Hawaiian waters. One day my skipper, Captain Beinis, received a message from the CinC, Admiral J.O. Richardson, stating in effect that he wished to talk to Commander Carney, the exec.

Wondering what I had been caught at, I hastened to comply with the CinC's wish.

Without preamble, Admiral Richardson stated that in his opinion war with Japan was inevitable, that it would be long dragged-out, that people in my age bracket would be war-time leaders, and that he wanted to talk to some of that group about the realities as he saw them.

Flattering as it was, it seemed far-fetched to consider me as a potential war-time leader. Mind you, I was then a commander.

The Admiral then proceeded to paint the readiness—or lack of it—picture. To me it was shattering.

Pointing out the lack of advanced bases, the slow pace of up-dating Fleet offensive and defensive characteristics, the fact that there were fatal shortages in ammunition replacements and back-up stocks of fuel, spare parts, and essential supplies, and the tenders and logistics ships needed to support an advanced-positioned Fleet—he was saying in plain and understandable language that the Navy was not ready for war.

Step by step he dismantled my confident belief that the U.S. Navy could win a quick decision. Instead, proceeding from our deficiencies, he foresaw the United States hanging on for a couple of years while the country and the Service built the strength necessary for an offensive campaign, and then a hard fight of a year or two before victory could be won.

Probably a *four year* war!

I considered myself a competent professional, versed in all of the experiences and skills required for advancement. At least, I *had* so considered myself. When Admiral Richardson finished with me I was sure of nothing. Mentally and spiritually I staggered back to the CALIFORNIA.

I was so profoundly disturbed that I had stomach butterflies, I was almost nauseated, and sleep would not come. My tight little professional world had collapsed.

Finally I pulled myself together. Accepting Admiral Richardson's views as irrefutable, I would throw out every previous professional belief and make a new thinking—start from scratch. No matter what the conventional wisdom held on any given subject, I would challenge it, disregard it, and make my own evaluation.

It was a turning point in my life, and later I expressed my gratitude to Admiral J.O.

Sincerely,

ROBT. B. CARNEY,
Admiral, USN (Ret.)